



wwPDB X-ray Structure Validation Summary Report

Nov 6, 2023 – 08:47 PM EST

PDB ID : 6NDK
Title : Structure of ASLSufA6 A37.5 bound to the 70S A site
Authors : Nguyen, H.T.; Hoffer, E.D.; Dunham, C.M.
Deposited on : 2018-12-13
Resolution : 3.64 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the  symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references](#) ) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : 1.13
EDS : **FAILED**
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

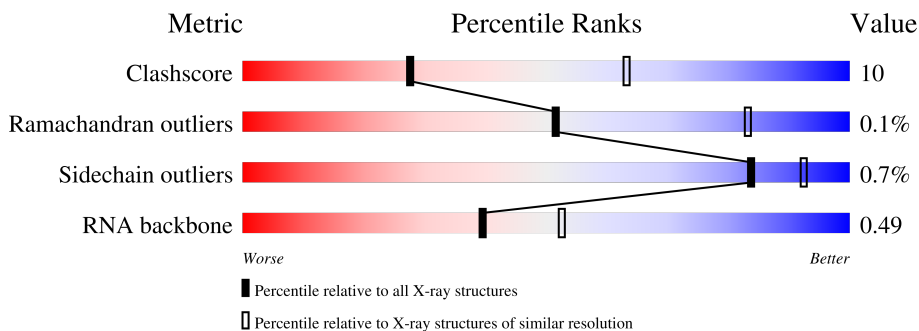
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.64 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1439 (3.78-3.50)
Ramachandran outliers	138981	1391 (3.78-3.50)
Sidechain outliers	138945	1391 (3.78-3.50)
RNA backbone	3102	1019 (4.26-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$.

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	QA	1521	
1	XA	1521	
2	QB	256	
2	XB	256	
3	QC	239	
3	XC	239	









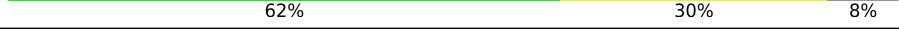

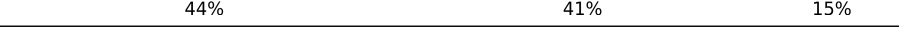
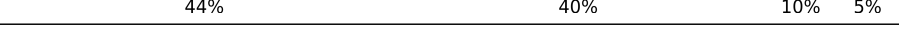

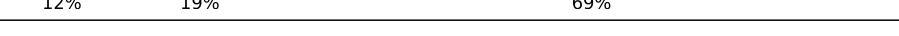


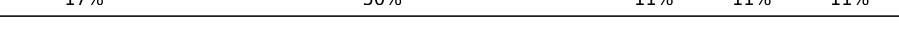

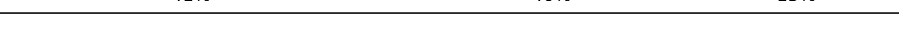






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Mol	Chain	Length	Quality of chain
4	QD	209	56% 37% 6%
4	XD	209	70% 27%
5	QE	162	60% 30% 9%
5	XE	162	68% 20% 9%
6	QF	101	73% 25%
6	XF	101	76% 23%
7	QG	156	63% 33%
7	XG	156	72% 25%
8	QH	138	59% 38%
8	XH	138	68% 30%
9	QI	128	53% 41% 5%
9	XI	128	62% 35%
10	QJ	105	53% 39% 6%
10	XJ	105	64% 28% 9%
11	QK	129	57% 28% 12%
11	XK	129	59% 26% 12%
12	QL	132	65% 23% 8%
12	XL	132	65% 25% 8%
13	QM	126	52% 36% 8%
13	XM	126	67% 21% 10%
14	QN	61	49% 46%
14	XN	61	67% 30%
15	QO	89	83% 12%
15	XO	89	83% 15%
16	QP	88	58% 34% 7%

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Mol	Chain	Length	Quality of chain
16	XP	88	 60% 32% 7%
17	QQ	105	 67% 24% 6%
17	XQ	105	 65% 29% 6%
18	QR	88	 56% 22% 23%
18	XR	88	 61% 15% 23%
19	QS	93	 61% 26% 11%
19	XS	93	 57% 30% 11%
20	QT	106	 64% 24% 9%
20	XT	106	 62% 30% 8%
21	QU	27	 41% 37% 7% 15%
21	XU	27	 44% 41% 15%
22	QV	77	 44% 40% 10% 5%
22	XV	77	 40% 48% 10% 2%
23	QX	26	 12% 19% 69%
23	XX	26	 12% 15% 12% 1% 58%
24	QY	18	 33% 11% 33% 22%
24	XY	18	 17% 50% 11% 11% 11%
25	RA	2915	 41% 43% 13% 2%
25	YA	2915	 41% 40% 15% 4%
26	RB	122	 44% 45% 9% 2%
26	YB	122	 58% 29% 10% 3%
27	RD	276	 74% 25% 1%
27	YD	276	 76% 23% 1%
28	RE	206	 68% 28% 4%
28	YE	206	 66% 31% 3%

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Mol	Chain	Length	Quality of chain
29	RF	210	
29	YF	210	
30	RG	182	
30	YG	182	
31	RH	180	
31	YH	180	
32	RI	148	
32	YI	148	
33	RN	140	
33	YN	140	
34	RO	122	
34	YO	122	
35	RP	150	
35	YP	150	
36	RQ	141	
36	YQ	141	
37	RR	118	
37	YR	118	
38	RS	112	
38	YS	112	
39	RT	146	
39	YT	146	
40	RU	118	
40	YU	118	
41	RV	101	


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Mol	Chain	Length	Quality of chain
41	YV	101	72% 26% ..
42	RW	113	77% 22% .
42	YW	113	79% 19% ..
43	RX	96	72% 25% ..
43	YX	96	86% 12% .
44	RY	110	75% 19% . .
44	YY	110	68% 27% . .
45	RZ	206	70% 24% . 5%
45	YZ	206	62% 25% . 11%
46	R0	85	67% 22% . 9%
46	Y0	85	73% 16% . 9%
47	R1	98	76% 21% ..
47	Y1	98	77% 22% .
48	R2	72	72% 25% .
48	Y2	72	82% 15% .
49	R3	60	68% 28% ..
49	Y3	60	68% 27% ..
50	R4	71	58% 38% ..
50	Y4	71	58% 37% . .
51	R5	60	80% 18% .
51	Y5	60	80% 17% .
52	R6	54	70% 28% .
52	Y6	54	65% 31% ..
53	R7	49	59% 37% ..
53	Y7	49	76% 20% ..

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Mol	Chain	Length	Quality of chain
54	R8	65	 72% 26% .
54	Y8	65	 72% 25% ..
55	R9	37	 59% 38% .
55	Y9	37	 73% 27%
56	ZA	3	 33% 67%
56	ZB	3	 33% 67%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
57	MG	QN	101	-	-	X	-
57	MG	RB	203	-	-	X	-
57	MG	RD	303	-	-	X	-
58	SF4	QD	303	-	-	X	-
58	SF4	XD	302	-	-	X	-

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 291822 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	QA	1500	Total 32246	C 14358	N 5975	O 10413	P 1500	0	0	0
1	XA	1504	Total 32331	C 14396	N 5990	O 10441	P 1504	0	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	QB	235	Total 1907	C 1217	N 342	O 343	S 5	0	0	0
2	XB	236	Total 1915	C 1223	N 343	O 344	S 5	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	QC	205	Total 1605	C 1011	N 313	O 280	S 1	0	0	0
3	XC	205	Total 1605	C 1011	N 313	O 280	S 1	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	QD	208	Total 1703	C 1066	N 339	O 291	S 7	0	0	0
4	XD	208	Total 1703	C 1066	N 339	O 291	S 7	0	0	0

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	148	Total	C	N	O	S	0	0	0
			1133	716	214	199	4			
5	XE	148	Total	C	N	O	S	0	0	0
			1133	716	214	199	4			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	QF	100	Total	C	N	O	S	0	0	0
			837	528	154	152	3			
6	XF	100	Total	C	N	O	S	0	0	0
			837	528	154	152	3			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
7	XG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QH	137	Total	C	N	O	S	0	0	0
			1108	700	214	192	2			
8	XH	137	Total	C	N	O	S	0	0	0
			1108	700	214	192	2			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
9	QI	127	Total	C	N	O	0	0	0
			1010	639	197	174			
9	XI	126	Total	C	N	O	0	0	0
			998	633	193	172			

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	QJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	XJ	96	Total	C	N	O	S	0	0	0
			777	487	153	136	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	114	Total	C	N	O	S	0	0	0
			844	525	158	158	3			
11	XK	114	Total	C	N	O	S	0	0	0
			844	525	158	158	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	QL	122	Total	C	N	O	S	0	0	0
			958	604	193	159	2			
12	XL	122	Total	C	N	O	S	0	0	0
			958	604	193	159	2			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	116	Total	C	N	O	S	0	0	0
			928	574	191	161	2			
13	XM	114	Total	C	N	O	S	0	0	0
			916	566	189	159	2			

- Molecule 14 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
14	XN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	QP	82	Total	C	N	O	S	0	0	0
			691	438	138	114	1			
16	XP	82	Total	C	N	O	S	0	0	0
			691	438	138	114	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			
17	XQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	68	Total	C	N	O	0	0	0
			555	355	108	92			
18	XR	68	Total	C	N	O	0	0	0
			555	355	108	92			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			
19	XS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QT	96	Total	C	N	O	S	0	0	0
			743	458	159	124	2			
20	XT	98	Total	C	N	O	S	0	0	0
			759	469	162	126	2			

- Molecule 21 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	QU	23	Total	C	N	O	0	0	0
			199	122	48	29			
21	XU	23	Total	C	N	O	0	0	0
			199	122	48	29			

- Molecule 22 is a RNA chain called P-site tRNAfMet.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			
22	XV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			

- Molecule 23 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QX	8	Total	C	N	O	P	0	0	0
			167	75	28	56	8			
23	XX	11	Total	C	N	O	P	0	0	0
			233	105	43	74	11			

- Molecule 24 is a RNA chain called A-site ASLSufA6 A37.5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	QY	14	Total	C	N	O	P	0	0	0
			301	134	55	98	14			
24	XY	16	Total	C	N	O	P	0	0	0
			341	153	63	110	15			

- Molecule 25 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	RA	2870	Total	C	N	O	P	0	0	0
			61819	27519	11565	19867	2868			
25	YA	2870	Total	C	N	O	P	0	0	0
			61822	27520	11565	19869	2868			

- Molecule 26 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RB	120	Total	C	N	O	P	0	0	0
			2572	1145	476	832	119			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
26	YB	120	2573	1146	476	832	119	0	0	0

- Molecule 27 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
27	RD	275	2144	1353	428	360	3	0	0	0
27	YD	275	2145	1353	428	361	3	0	0	0

- Molecule 28 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
28	RE	204	1563	988	299	270	6	0	0	0
28	YE	204	1563	988	299	270	6	0	0	0

- Molecule 29 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
29	RF	202	1585	1011	297	275	2	0	0	0
29	YF	202	1585	1011	297	275	2	0	0	0

- Molecule 30 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
30	RG	181	1474	942	268	260	4	0	0	0
30	YG	181	1474	942	268	260	4	0	0	0

- Molecule 31 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
31	RH	174	1336	848	251	236	1	0	0	0
31	YH	173	1330	845	250	234	1	0	0	0

- Molecule 32 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
32	RI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			
32	YI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 33 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
33	RN	140	Total	C	N	O	S	0	0	0
			1121	722	208	187	4			
33	YN	140	Total	C	N	O	S	0	0	0
			1121	722	208	187	4			

- Molecule 34 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
34	RO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			
34	YO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 35 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
35	RP	149	Total	C	N	O	S	0	0	0
			1139	709	231	196	3			
35	YP	149	Total	C	N	O	S	0	0	0
			1139	709	231	196	3			

- Molecule 36 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
36	RQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
36	YQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 37 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
37	YR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 38 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	RS	110	Total	C	N	O	S	0	0	0
			877	553	175	149				
38	YS	110	Total	C	N	O	S	0	0	0
			877	553	175	149				

- Molecule 39 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	RT	131	Total	C	N	O	S	0	0	0
			1091	680	225	185	1			
39	YT	131	Total	C	N	O	S	0	0	0
			1091	680	225	185	1			

- Molecule 40 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	RU	116	Total	C	N	O	S	0	0	0
			959	608	201	149	1			
40	YU	116	Total	C	N	O	S	0	0	0
			959	608	201	149	1			

- Molecule 41 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	RV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
41	YV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 42 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	RW	112	Total	C	N	O	S	0	0	0
			890	560	175	153	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
42	YW	112	890	560	175	153	2	0	0	0

- Molecule 43 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
43	RX	95	750	488	135	126	1	0	0	0
43	YX	95	750	488	135	126	1	0	0	0

- Molecule 44 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
44	RY	107	818	525	155	132	6	0	0	0
44	YY	107	818	525	155	132	6	0	0	0

- Molecule 45 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
45	RZ	196	1552	988	273	288	3	0	0	0
45	YZ	183	1461	933	260	265	3	0	0	0

- Molecule 46 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
46	R0	77	611	378	129	103	1	0	0	0
46	Y0	77	611	378	129	103	1	0	0	0

- Molecule 47 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
47	R1	97	763	481	150	131	1	0	0	0
47	Y1	97	763	481	150	131	1	0	0	0

- Molecule 48 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	R2	70	Total	C	N	O	S	0	0	0
			592	368	119	103	2			
48	Y2	70	Total	C	N	O	S	0	0	0
			592	368	119	103	2			

- Molecule 49 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
49	R3	59	Total	C	N	O	0	0	0
			469	298	90	81			
49	Y3	59	Total	C	N	O	0	0	0
			468	298	90	80			

- Molecule 50 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	R4	69	Total	C	N	O	S	0	0	0
			565	356	103	101	5			
50	Y4	69	Total	C	N	O	S	0	0	0
			565	356	103	101	5			

- Molecule 51 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	R5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
51	Y5	58	Total	C	N	O	S	0	0	0
			451	283	89	74	5			

- Molecule 52 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	R6	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			
52	Y6	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			

- Molecule 53 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	R7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			
53	Y7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

- Molecule 54 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	R8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
54	Y8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 55 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
55	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 56 is a RNA chain called tRNA acceptor end mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	ZA	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
56	ZB	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

- Molecule 57 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	124	Total	Mg	0	0
			124	124		
57	QC	1	Total	Mg	0	0
			1	1		
57	QD	2	Total	Mg	0	0
			2	2		
57	QE	2	Total	Mg	0	0
			2	2		
57	QL	2	Total	Mg	0	0
			2	2		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QM	2	Total 2	Mg 2	0	0
57	QN	2	Total 2	Mg 2	0	0
57	QO	1	Total 1	Mg 1	0	0
57	QV	3	Total 3	Mg 3	0	0
57	RA	414	Total 414	Mg 414	0	0
57	RB	8	Total 8	Mg 8	0	0
57	RD	5	Total 5	Mg 5	0	0
57	RE	5	Total 5	Mg 5	0	0
57	RF	5	Total 5	Mg 5	0	0
57	RN	2	Total 2	Mg 2	0	0
57	RO	1	Total 1	Mg 1	0	0
57	RP	2	Total 2	Mg 2	0	0
57	RQ	1	Total 1	Mg 1	0	0
57	RR	1	Total 1	Mg 1	0	0
57	RV	1	Total 1	Mg 1	0	0
57	RW	1	Total 1	Mg 1	0	0
57	RX	1	Total 1	Mg 1	0	0
57	RZ	1	Total 1	Mg 1	0	0
57	R0	2	Total 2	Mg 2	0	0
57	R1	1	Total 1	Mg 1	0	0
57	R3	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	R5	1	Total 1	Mg 1	0	0
57	R6	1	Total 1	Mg 1	0	0
57	R7	1	Total 1	Mg 1	0	0
57	R8	1	Total 1	Mg 1	0	0
57	R9	1	Total 1	Mg 1	0	0
57	XA	128	Total 128	Mg 128	0	0
57	XD	1	Total 1	Mg 1	0	0
57	XJ	1	Total 1	Mg 1	0	0
57	XK	2	Total 2	Mg 2	0	0
57	XN	1	Total 1	Mg 1	0	0
57	XV	1	Total 1	Mg 1	0	0
57	XX	1	Total 1	Mg 1	0	0
57	YA	544	Total 544	Mg 544	0	0
57	YB	8	Total 8	Mg 8	0	0
57	YD	8	Total 8	Mg 8	0	0
57	YE	7	Total 7	Mg 7	0	0
57	YF	1	Total 1	Mg 1	0	0
57	YG	1	Total 1	Mg 1	0	0
57	YP	3	Total 3	Mg 3	0	0
57	YQ	2	Total 2	Mg 2	0	0
57	YR	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	YT	1	Total Mg 1 1	0	0
57	YU	1	Total Mg 1 1	0	0
57	YV	1	Total Mg 1 1	0	0
57	YW	1	Total Mg 1 1	0	0
57	YX	1	Total Mg 1 1	0	0
57	Y0	1	Total Mg 1 1	0	0
57	Y1	3	Total Mg 3 3	0	0
57	Y3	1	Total Mg 1 1	0	0
57	Y5	1	Total Mg 1 1	0	0
57	Y6	1	Total Mg 1 1	0	0
57	Y7	1	Total Mg 1 1	0	0
57	Y8	1	Total Mg 1 1	0	0
57	Y9	1	Total Mg 1 1	0	0

- Molecule 58 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe₄S₄).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	QD	1	Total	Fe S	0	0
			8	4 4		
58	XD	1	Total	Fe S	0	0
			8	4 4		

- Molecule 59 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	QN	1	Total	Zn	0	0
			1	1		
59	R4	1	Total	Zn	0	0
			1	1		
59	R9	1	Total	Zn	0	0
			1	1		
59	XN	1	Total	Zn	0	0
			1	1		
59	Y4	1	Total	Zn	0	0
			1	1		

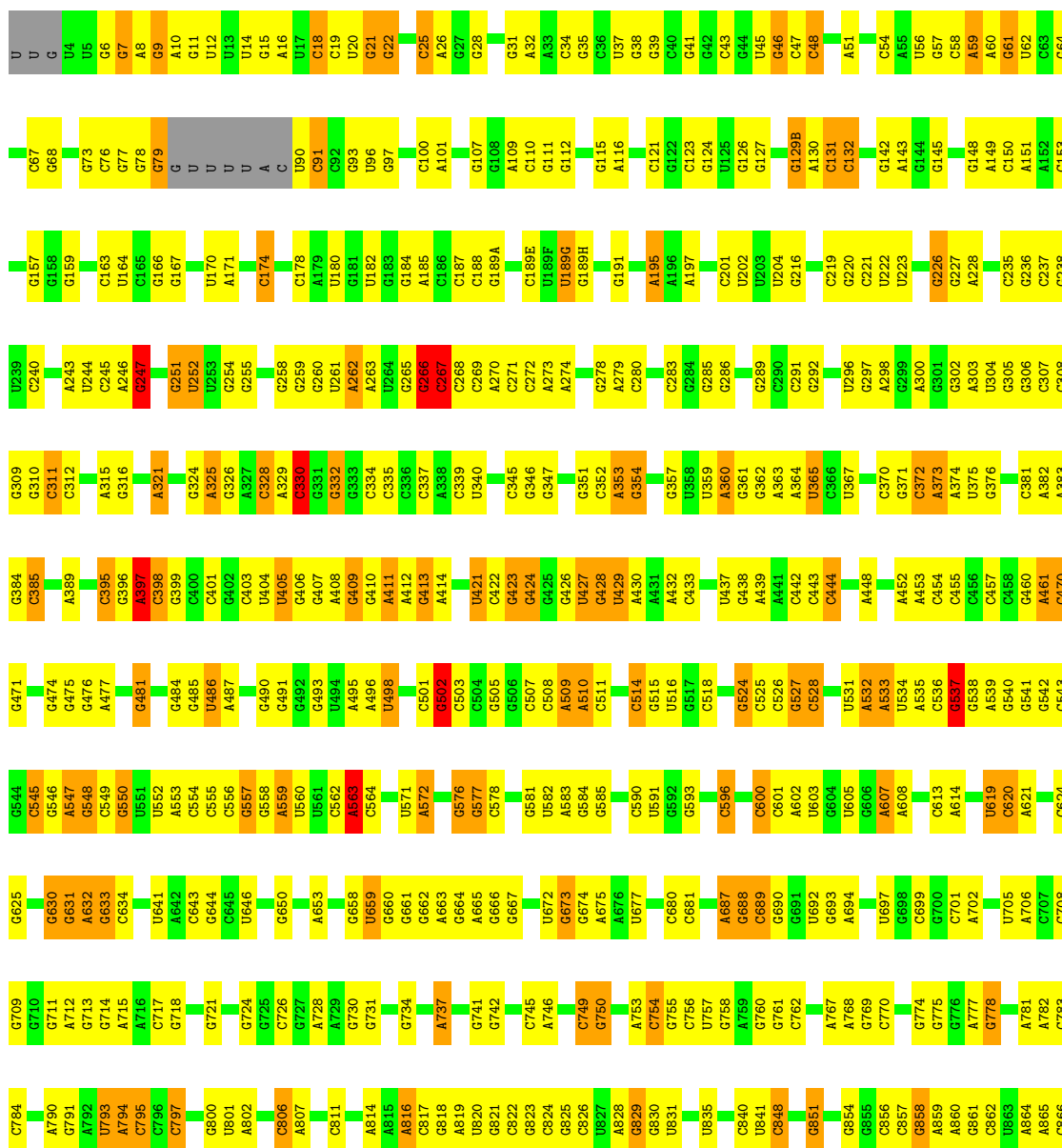
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

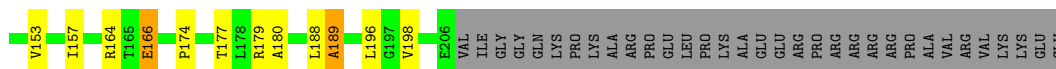
Note EDS failed to run properly.

- Molecule 1: 16S rRNA

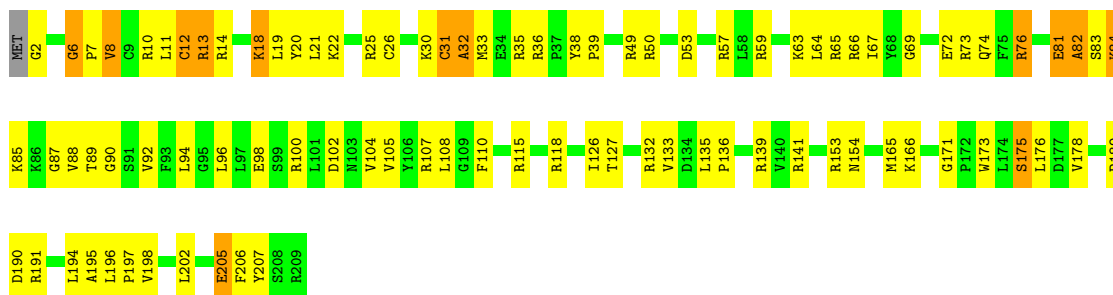
Chain QA: 



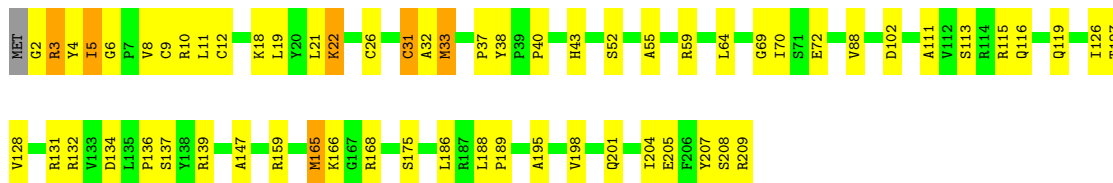
C1430	G1361	A1287	C1218	U1126	C1054	U981	G902	C811	A737	U486	U404	A338
C1431	C1362	A1288	U1219	G1127	A1085	U982	G903	C812	C738	A487	U405	C339
G1432	C1363A	A1289	G1220	C1128	G1058	C985	G906	U813	G740	C488	G406	C342
A1433	A1363B	G1290	G1221	C1129	A1059	A986	A907	A814	G741	G407	G408	U343
G1434	U1364	U1291	G1222	A1130	C1060	A987	A908	A815	G742	A409	G409	A344
G1435	U1365	U1292	C1223	U1136	G1061	C989	A909	C817	G743	G410	G411	C345
U1436	C1366	G1293	G1294	U1137	U1062	S990	G910	G818	U744	G412	A412	C346
C1437	C1367	G1294	C1226	G1138	U1065	U991	U911	A819	G745	U498	A413	G347
G1438	C1368	U1295	C1227	U1139	C1066	U992	C912	G820	A746	G501	G414	G348
C1439	C1369	C1296	C1228	C1140	C993	G993	C913	G821	C747	A349	G415	G350
	C1370	C1297	C1229	C1141	A1067	A994	A914	G823	G748	G502	G416	G351
G1442A	U1371	U1298	A1229	C1142	G1068	C999		C824	G749	C503	C417	
G1442B	U1372	C1298	C1230	G1143	C1069		A918		G750	C504		C352
A1447	A1374	G1300	G1231				A919	A828		G505	U421	A353
C1452	A1375	U1301	A1236	C1147	U1070	G1001B	A920	A829	G754	C422	C422	G354
G1456	U1380	C1303	A1237	U1148	G1072	G1002	U921	A833	C755	A509	G423	C355
G1457	G1304	G1304	A1238	U1152	U1073	G1003	G922	U833	G756	A510	G424	A356
G1458	U1381	G1305	A1239	A1152	G1074	A1004	A923	C834	U757	C511	G425	G357
C1459	C1382	A1306	U1240	C1158	C1075	A1005	C924	U835		U512	G426	U888
	C1383	U1307	G1241	U1159	U1078	C1006	G925	G836	G761	C513	U427	U889
G1464	C1384	U1308	C1244	U1160	U1079	G1010	G926	C840	G762	C514	G428	A360
G1469	C1385	G1309	A1245	C1161	A1080	G1011	G927	U841	G763	C515	U429	A360
	G1386		C1246		G1081			U848		U516	A430	A430
G1470	G1387	G1312	U1247	G1164		C931	C932	U692	A766	G517	A431	U365
G1475	U1390	U1313	U1248		U1085	C932	C933	G693	A767	C518	A432	C366
G1476	U1391	U1314	A1249	A1170	U1086	A1015	G933	G694	C601	C519	A433	U367
	G1392	U1315	C1250	A1178	U1087	A1016	C934	G695	A602	C520	C434	U368
G1480	U1381	C1316	G1186	G1178	C1098	U1025	A948	G696	U603	A521	C435	
U1481	C1395	C1317	G1187	A1179	A1092	U1026	U950	G697	U608	G524	C436	G371
	A1396	A1319	G1188	A1183	A1093	U1027	U952	G698	A608	C525	U437	C372
U1485	C1397	C1320	G1189	A1184	U1094	G1022	A946	G699	A609	C526	C438	A373
G1486	A1398	U1257	G1188	G1184	U1095	G1021	G947	A702	A610	C527	U439	A374
G1487	C1399	G1258	G1185	G1185	C1096	G1023	A949	A707	A611	G528	C442	U375
C1400	C1400	A1324	G1186	G1186	C1097	U1024	U950	C707	C618	C529	C443	G376
G1488	C1400	A1324	G1186	G1186	C1098	U1025	U950	G711	C619	A532	C444	G377
G1489	C1401	C1325	G1186	G1186	C1099	U1026	U952	G712	C620	A533	C449	G378
C1490	C1402	C1326	G1190	G1190	C1100	C1027	U953	G713	A621	A534		C379
G1491	C1403	C1262	A1191	A1191	A1101	C1028	G954	G714	A622	A535		G380
C1404	C1404	C1264	A1192	A1192	A1102	C1029	G955	G715	C623	A539	A452	C381
G1405	U1405	G1265	U1196	U1196	C1103	G1030A	U955	G716	C624	A540	A453	A382
G1494	U1406	G1331	G1197	G1197	G1104	C1030B	U960	G717	G625	G540	C455	A383
	A1340		C1200	C1200	G1108	C1030C	U961	G718	G630	C543	A451	C386
U1498	G1343	A1266	A1201	A1201	C1109		G966	A792	G631	C544	C470	U387
A1500	C1344	A1269	G1202	G1202	C1112	G1032	G967	A793	A632	C545	G471	G388
G1501	U1345	G1271	C1203	C1203	C1113	G1036	A968	A721	A633	G546	A472	A389
A1502	A1346	A1204	A1204	A1204	C1114	G1037	A969	U723	G635	A547	G473	C390
A1503	G1347	G1274	G1205	G1205	C1115	C1038	C970	G794	U636		G474	G391
G1504	U1348	A1275	G1207	G1207	C1116	C1039	G971	G725	G637	U552	G475	G392
G1505	C1208	C1208	C1208	C1208	C1117	U1040	C972	A802	G638	A553	G476	G392
U1506	C1209	C1209	C1209	C1209	C1118	U1041	G973	A803	G639	C554	G477	G396
A1507	C1210	C1210	C1210	C1210	C1119	C1043	A974	U804	A640	C555	A477	A397
G1422	U1211	U1211	U1211	U1211	C1120	G1044	A975	U805	A641	C556	C479	A398
G1423	U1281	U1281	U1281	U1281	C1121	C1045	A976	C806	A642	C557	G480	C398
C1424	A1213	C1282	A1213	A1213	U1122	U1046	A977	C807	A643	G557	G481	G399
	U1427	C1214	U1214	U1214	A1123	G1047	A978	G808	A644	A559	A482	C400
U1511	U1512	C1215	G1215	G1215	A1124		C979	G809	A645	U560	G483	C401
A1513	A1428	A1359	A1285	A1285	U1125	G1053	C980	G810	A646	U561	G484	C402
C1514	C1429	A1360	A1286	A1286			C980				G485	C403



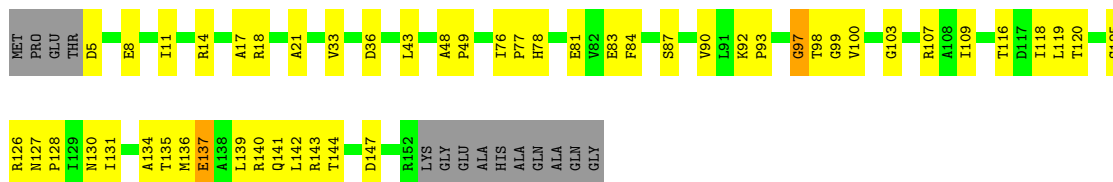
• Molecule 4: 30S ribosomal protein S4



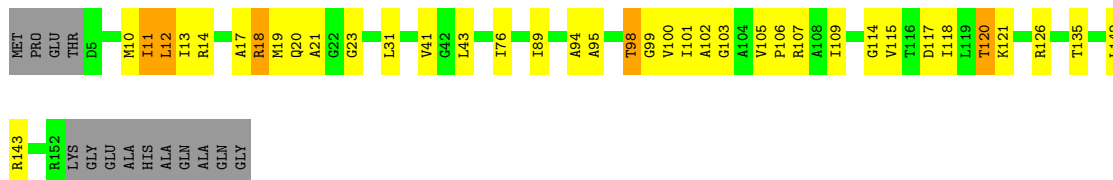
• Molecule 4: 30S ribosomal protein S4



• Molecule 5: 30S ribosomal protein S5



• Molecule 5: 30S ribosomal protein S5




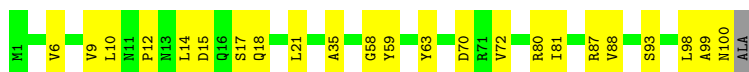
• Molecule 6: 30S ribosomal protein S6

Chain QF:  73% 25% ..



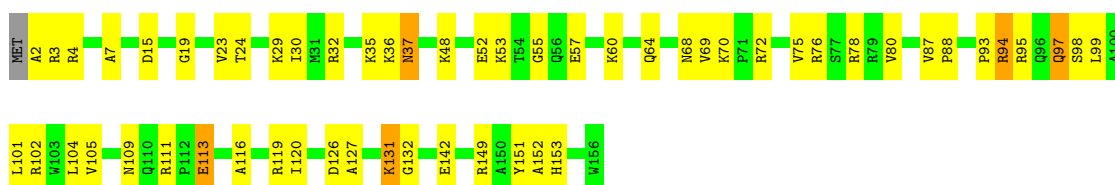
- Molecule 6: 30S ribosomal protein S6

Chain XF:  76% 23% .



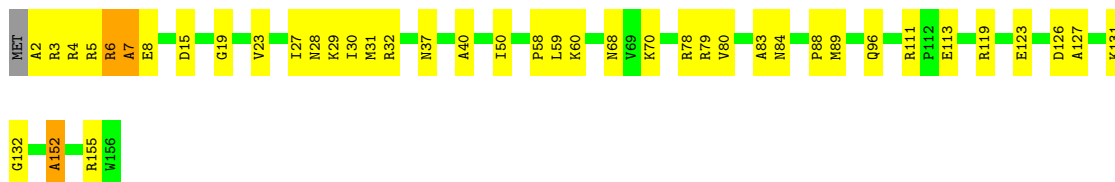
- Molecule 7: 30S ribosomal protein S7

Chain QG:  63% 33% ..



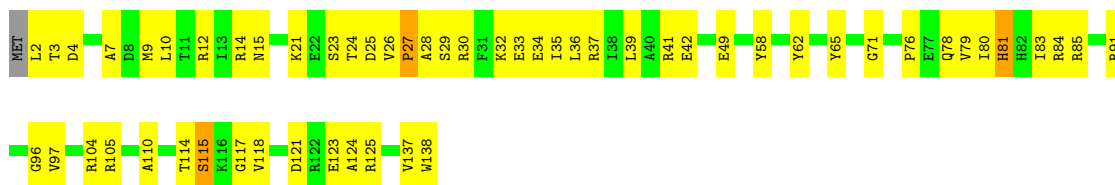
- Molecule 7: 30S ribosomal protein S7

Chain XG:  72% 25% ..



- Molecule 8: 30S ribosomal protein S8

Chain QH:  59% 38% ..



- Molecule 8: 30S ribosomal protein S8

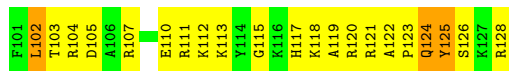
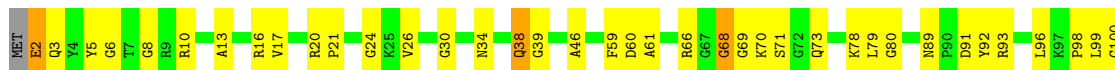
Chain XH:  68% 30% ..





- Molecule 9: 30S ribosomal protein S9

Chain QI: 53% 41% 5%



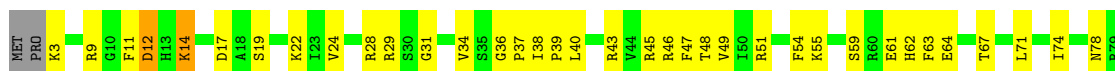
- Molecule 9: 30S ribosomal protein S9

Chain XI: 62% 35% ...



- Molecule 10: 30S ribosomal protein S10

Chain QJ: 53% 39% 6%



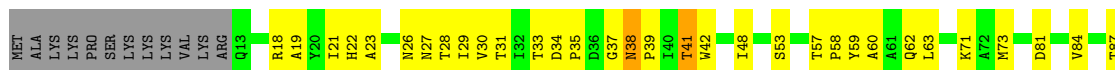
- Molecule 10: 30S ribosomal protein S10

Chain XJ: 64% 28% 9%



- Molecule 11: 30S ribosomal protein S11

Chain QK: 57% 28% 12%





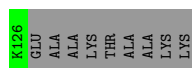
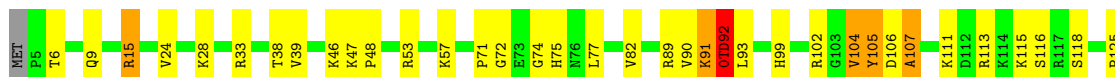
- Molecule 11: 30S ribosomal protein S11

Chain XK: 59% 26% 12%



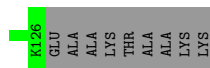
- Molecule 12: 30S ribosomal protein S12

Chain QL: 65% 23% 8%



- Molecule 12: 30S ribosomal protein S12

Chain XL: 65% 25% 8%



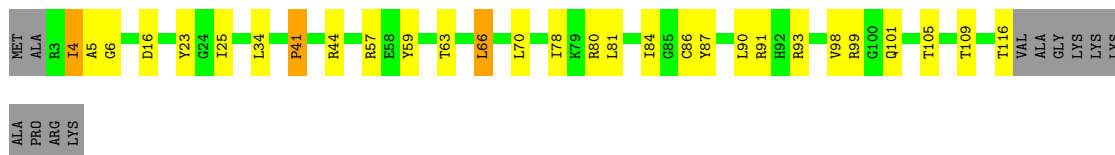
- Molecule 13: 30S ribosomal protein S13

Chain QM: 52% 36% 8%



- Molecule 13: 30S ribosomal protein S13

Chain XM: 67% 21% 10%



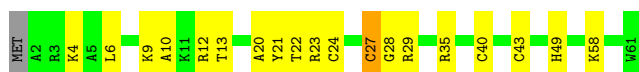
- Molecule 14: 30S ribosomal protein S14 type Z

Chain QN: 49% 46%



- Molecule 14: 30S ribosomal protein S14 type Z

Chain XN: 67% 30%



- Molecule 15: 30S ribosomal protein S15

Chain QO: 83% 12%



- Molecule 15: 30S ribosomal protein S15

Chain XO: 83% 15%



- Molecule 16: 30S ribosomal protein S16

Chain QP: 58% 34% 7%



- Molecule 16: 30S ribosomal protein S16

Chain XP: 60% 32% 7%



- Molecule 17: 30S ribosomal protein S17

Chain QQ:  67% 24% 6%



- Molecule 17: 30S ribosomal protein S17

Chain XQ:  65% 29% 6%



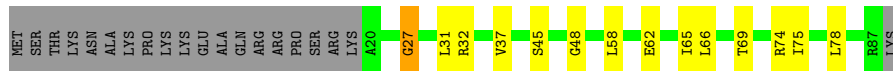
- Molecule 18: 30S ribosomal protein S18

Chain QR:  56% 22% 23%



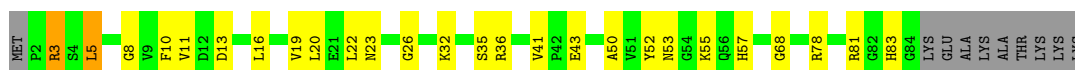
- Molecule 18: 30S ribosomal protein S18

Chain XR:  61% 15% 23%



- Molecule 19: 30S ribosomal protein S19

Chain QS:  61% 26% 11%



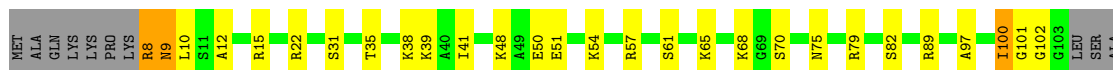
- Molecule 19: 30S ribosomal protein S19

Chain XS:  57% 30% 11%



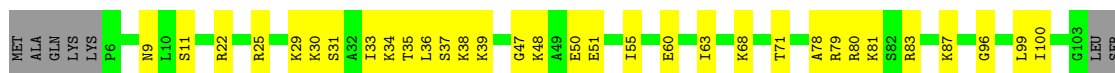
- Molecule 20: 30S ribosomal protein S20

Chain QT:  64% 24% 9%



- Molecule 20: 30S ribosomal protein S20

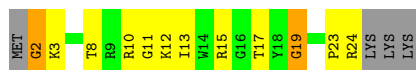
Chain XT:  62% 30% 8%



ALA

- Molecule 21: 30S ribosomal protein Thx

Chain QU:  41% 37% 7% 15%



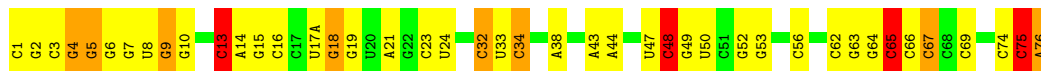
- Molecule 21: 30S ribosomal protein Thx

Chain XU:  44% 41% 15%



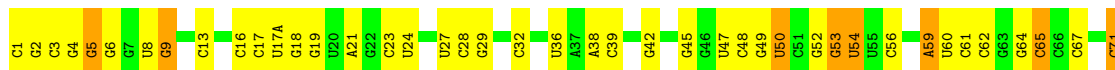
- Molecule 22: P-site tRNAfMet

Chain QV:  44% 40% 10% 5%



- Molecule 22: P-site tRNAfMet

Chain XV:  40% 48% 10% 2%



A72, A73, C74, C75, A76

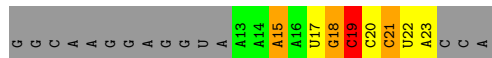
- Molecule 23: mRNA

Chain QX:  12% 19% 69%

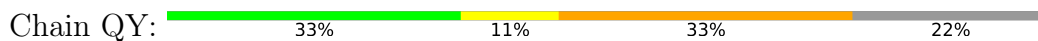


- Molecule 23: mRNA

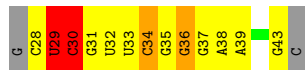
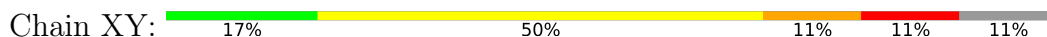
Chain XX:  12% 15% 12% 58%



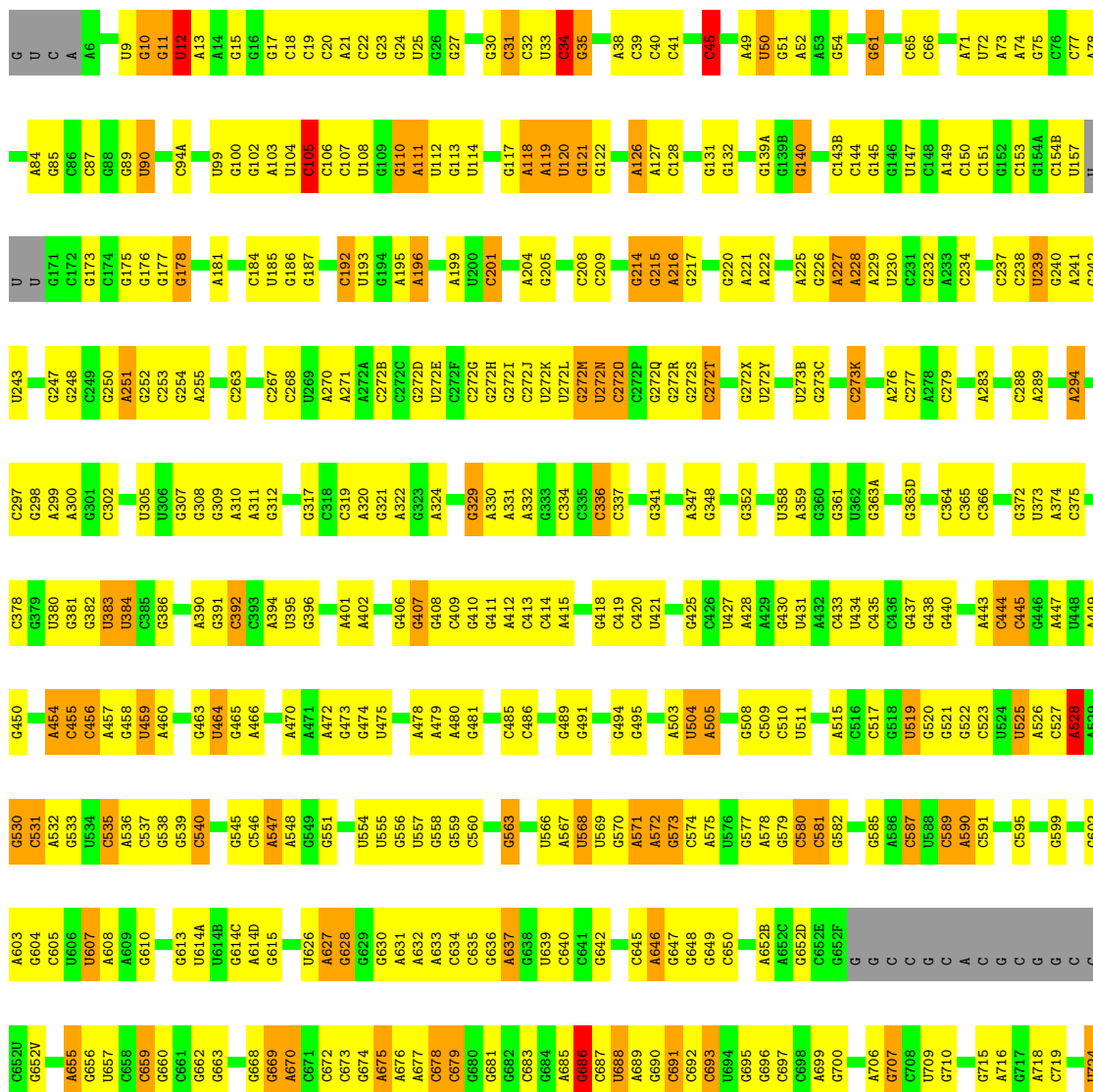
• Molecule 24: A-site ASLSufA6 A37.5



• Molecule 24: A-site ASLSufA6 A37.5

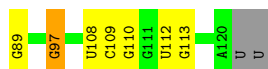


• Molecule 25: 23S rRNA



G1813	A1698	A1614	G1455	C1370	A1220	A1143	C1079	U1012	A941	G864	C797	G725
G1814	G1699	C1615	G1458	G1371	C1221A	C1147	U1082	C1013	G942	C865	G798	G729
G1815	A1700	A1616	G1459	C1375	C1221B	C1146	U1083	G1017	U943	A866	G799	C730
G1816	A1701	A1542	G1460	C1376	C1222	A1148	A1084	C1018	A945	C867	A800	G801
G1817	G1702	A1543	C1377	A1301	G1223	G1149	A1085	U1019	G946	U868	G802	C731
U1820	G1706	A1462	A1378	A1302	C1224	C1150	A1086	A1020	G947	A870	G732	G733
A1821	U1629	C1463	A1379	C1304	G1225	G1151	G1087	A1021	G948	U871	G805	A734
G1824	G1630	C1464	G1380	C1305	G1226	C1152	A1088	G1022	A735	C806	A735	A735
A1825	C1631A	G1466	G1381	C1306	G1227	C1153	U1089	G1023	G952	U807	A736	C736
G1826	A1632	C1467	A1384	G1309	G1231	A1155	G1091	G1024	G881	G808	G737	G739
A1829	G1633	A1471	G1385	G1309	G1232	A1156	C1092	U1025	C884	G809	G742	G742
C1830	C1638	C1474	G1389	U1312	C1233	G1157	G1093	U1026	A887	U810	G743	G743
G1831	A1639	G1475	U1390	U1313	G1234	C1158	U1094	G1030	A888	U811	G744	G744
C1832	C1640	A1476	U1391	U1314	G1235	C1159	A1095	U1035	A889	C812	G745	G745
U1833	A1641	A1477	U1394	C1315	U1240	G1160	A1096	G1031	C890	G818	A746	A746
U1834	C1646	G1480	A1395	U1316	A1241	G1164	U1097	A1032	G962	A819	U747	U747
G1835	G1647	U1481	U1396	C1317	A1242	C1165	A1098	U1033	U963	A820	C748	C748
C1836	C1648	G1482	U1397	C1318	A1243	C1166	G1099	G1034	C964	A821	C749	C749
C1837	G1651	U1481	U1398	U1323	A1247	G1171	C1102	U1037	G965	A822	A750	A750
C1838	A1652	G1484	C1398	C1327	G1248	A	C1103	G1038	U969	C825	A751	A752
G1839	G1653	G1485	U1405	G1328	U1249	G	C1104	U1039	C970	C826	A752	A752
G1842	A1654	G1485	U1406	U1329	G1250	U	U1105	C1040	C971	U826	C755	C755
C1844	G1657	U1490	U1409	C1330	G1251	G	U1106	G1041	G972	U827	C756	C756
A1847	C1658	C1493	G1410	C1333	C1252	A	G1107	U1042	A973	U828	U757	U757
A1848	A1668	A1494	C1411	U1334	A1253	U	U1108	C1043	C974	A901	C758	C758
G1849	A1669	A1495	G1412	G1335	A1254	C1178	U1109	U1044	G975A	C830	G763	G763
G1850	C1666	A1496	G1413	U1336	U1255	C1180	G1110	A1045	G975B	G831	G764	G764
A1853	G1667	U1497	G1414	C1337	G1256	C1181	G1111	A1046	C908	G832	G765	G765
A1854	A1668	G1500	G1415	G1338	C1257	C1182	G1112	G1047	C909	U833	G766	G766
A1854	A1669	A1508	U1420	U1339	A1262	G1183	U1113	U1049	A900	C834	C766	C766
G1855	C1670	A1509A	G1421	G1339	U1263	C1184	G1114	C1049	A901	C835	U767	U767
G1856	U1671	A1509B	G1422	U1341	G1264	G1185	G1115	C1052	C982	G836	G768	G768
A1859	C1672	A1509C	G1426	A1342	A1265	G1187	G1116	G1053	C983	C837	G769	G769
A1859	U1673	U1510	A1427	C1345	G1266	U1188	G1117	A1054	A984	C838	G770	G770
A1860	C1674	C1511	G1428	G1346	U1267	U1189	G1120	A1057	A984	U839	A774	A774
U1864	C1675	U1514	G1429	G1346	A1269	A1190	C1123	U1060	C986	U840	G775	G775
A1877	A1676	C1515	G1430	U1352	C1270	G1191	G1124	U	C987	U841	G776	G776
C1879	G1677	C1516	G1435	A1353	A1271	U1198	G1125	G1062	C988	C846	A777	A777
A1879	G1678	G1525	C1437	A1354	A1272	C1201	G1126	U	C989	U846	G778	G778
A1879	G1682	G1528A	G1441	G1355	U1273	U1202	A1127	C1063	C991	G846	A781	A781
C1882	C1685	A1528B	G1442	G1356	A1274	G1203	A1128	C1064	C992	A849	A782	A782
G1883	A1686	G1529	G1442	U1357	A1278	G1206	U1130	U1066	C993	C850	A783	A783
C1886	C1687	C1830	A1445A	A1358	A1286	A1210	G1131	A1067	C995	U851	A784	A784
A1886	U1688	C1605	C1445B	G1361	A1287	U1211	C1136	G1068	A996	G854	C786	C786
A1889	A1689	C1532	C1446	C1362	U1288	U1211	G1137	U1070	C997	G855	U787	U787
U1890	C1607	G1533	C1446	C1363	C1289	G1212	U1137	G1071	C998	A788	A788	A788
U1890	U1692	U	G1450A	G1364	U1292	G1215	G1138	C1072	U999	G856	A789	A789
G1891	U1688	A	C1450B	A1365	C1293	G1216	G1139	A1001	A1000	U858	G792	G792
C1896	G1696	G1536	C1451	A1366	U1294	C1217	G1140	A1001	A1001	G859	A793	A793
U1898	G1697	A1452	A1452	A1367	C1295	C1218	U1141	C1005	C935	U860	A794	A794
		G1538	U1453	G1369	G1296	G1219	A1142A	G1077	C936	A861	G795	G795
							A1142B	U1078		A863	C796	C796

U2118	A2051	G1817	G1742	G1498	A1419	U1341	G1271	G1202	A1129
A2119	G2052	U1818	G1748	C1499	U1420	A1342	A1272	G1203	U1130
A2126	A2053	A1819	A1748	G1500	G1421	A1342	U1273	A1203	G1131
G2127	A2054	U1820	A1749	C1501	G1422	G1343	U1274	A1204	A1132
G2128	G2055	A1821	A1752	C1505	G1423	G1344	A1275	U1205	G1133
G2129	G2056	G1822	G1753	U1506	G1424	C1345	A1276	G1206	U1135
U2130	A2059	G1823	G1754	A1507	G1425	U1352	G1280	G1136	A1137
G2131	A2060	G1826	A1755	A1508	G1426	A1353	U1281	U1211	G1138
U2132	G2061	C1827	G1756	A1509	A1427	A1354	U1282	G1212	G1139
G2133	A2062	U1828	A1757	A1509A	G1428	G1355	G1285	G1215	G1140
G2134	C2063	A1829	A1760	A1509B	G1429	G1356	U1286	G1216	U1141
A2134	C2064	U1830	C1761	A1509C	C1430	U1357	A1287	G1217	U1142
G2137	C2065	G1831	A1762	C1510	U1431	A1358	U1288	G1217	U1142A
G2138	G2066	G1832	G1763	C1511	C1432	A1359	U1288	C1218	A1142B
C2067	C2067	U1833	G1764	U1512	U1433	A1360	C1291	C1221A	A1143
U2068	C2068	U1833	G1765	U1513	A1434	G1363	U1292	G1223	G1144
G2069	G1997	C1836	C1765	U1514	G1435	G1364	C1293	G1223	C1145
G2070	C1998	U1839	G1769	G1515	G1436	A1365	U1294	C1224	C1150
A2071	G2000	G1839	G1770	U1518	U1438	A1366	G1295	G1225	
G2072	G2003	G1842	G1772	G1525	A1439	A1367	G1296	G1226	C1153
C2073	G2004	C1843	A1773	G1526	G1440	G1368	C1297	G1227	G1154
U2074	A2005	U1843	C1774	U1531	A1445A	G1374	C1298	G1231	A1155
U2075	G2006	C1844	C1774	C1532	C1446	C1375	G1299	G1231	A1156
C2076	C2007	C1844	C1774	C1533	G1447	C1376	U1300	G1232	G1157
A2077	G2008	A1847	U1778	U	G1447	C1377	A1302	C1233	C1158
G2080	G2009	A1948	U1779	A	G1450A	A1378	A1306	U1234	U1159
C2081	G2010	C1852	C1781	C1536	U1451	A1379	C1307	G1235	G1160
A2082	U2011	A1853	C1782	G1537	U1452	G1380	A1308	G1236	G1164
G2083	G2012	G1857	A1784	U1538	U1453	A1381	G1309	G1239	U1165
U2086	A2014	G1858	A1785	U1539	U1455	G1382	G1310	U1240	
A2015	A2015	U1864	A1786	U	G1455	G1383	G1311	A1241	
U2016	G1945	U1865	C1787	A	G1459	A1384	U1312	G1243	
U2017	G1946	G1865	G1788	C1543	C1462	G1385	U1313	G1243	
G2093	U1947	C1866	A1789	C1544	C1463	G1386	U1314	A1246	
G2094	G1948	U1866	C1789	A1545	U1464	G1387	C1315	A1247	
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G2100	G1955	C1882	C1795	C1550	A1471	A1322	A1254	A1182	
U2102	U1956	A1889	U1798	A1553	A1472	G1400	U1255	G1184	
A2031	C1957	U1898	G1799	A1554	A1473	G1401	G1325	C1185	
G2032	C1958	G1899	C1800	C1557	G1476	G1402	U1326	G1186	
A2033	U1961	C1893	G1801	U1558	C1476	G1403	C1327	G1187	
C2105	C1962	C1894	A1802	U1559	G1477	U1406	U1328	U1188	
G2106	U1963	G1897	A1803	U1560	G1482	C1407	U1329	G1260	
C2107	G1964	U1898	C1804	G1561	U1482	A1331	C1330	C1261	
U2109	C1965	U1898	U1808	U1562	A1490	A1332	A1262	G1191	
G2110	A1966	G1899	A1809	A1563	A1491	G1333	G1263	G1192	
C2040	C1967	U1900	A1810	G1563	G1410	C1333	A1264	G1196	
U2041	U2040	G1902	U1719	C1564	G1492	C1411	A1265	G1197	
A2042	U2041	C1903	G1813	C1565	G1493	A1412	A1266	U1198	
C2044	C2044	G1904	G1814	A1566	A1494	A1337	U1267	U1199	
A2117	A1971	U1905	U1739	A1569	A1495	G1416	A1268	C1200	
G2117	A1972	C1906	G1816	A1570	U1497	A1418	C1270	C1201	



- Molecule 27: 50S ribosomal protein L2

Chain RD: 74% 25%



- Molecule 27: 50S ribosomal protein L2

Chain YD: 76% 23%



- Molecule 28: 50S ribosomal protein L3

Chain RE: 68% 28%



- Molecule 28: 50S ribosomal protein L3

Chain YE: 66% 31%

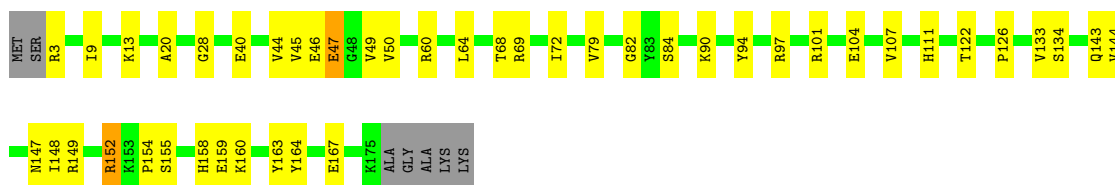


- Molecule 29: 50S ribosomal protein L4

Chain RF: 69% 23%

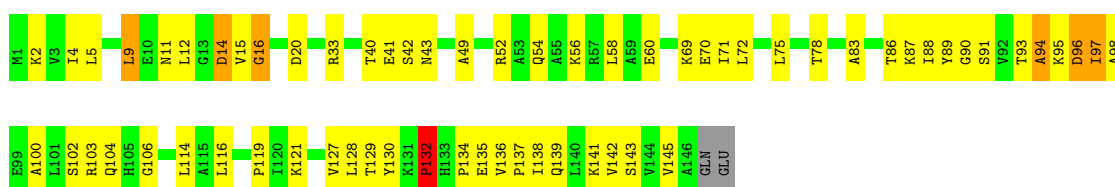
- Molecule 31: 50S ribosomal protein L6

Chain YH:  71% 24% ..




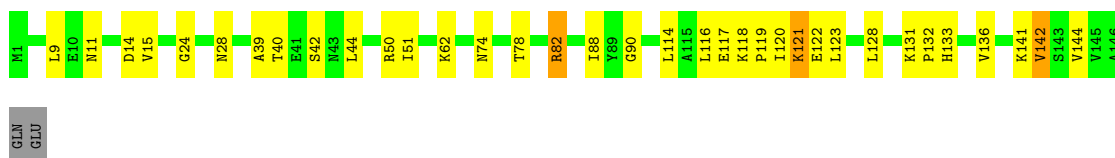
- Molecule 32: 50S ribosomal protein L9

Chain RI:  55% 39% ..




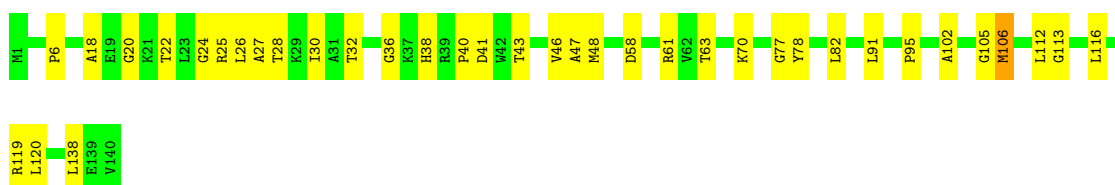
- Molecule 32: 50S ribosomal protein L9

Chain YI:  75% 22% ..




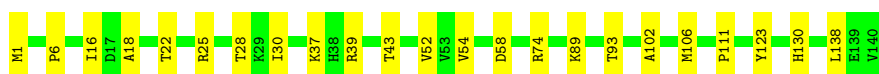
- Molecule 33: 50S ribosomal protein L13

Chain RN:  74% 26% ..



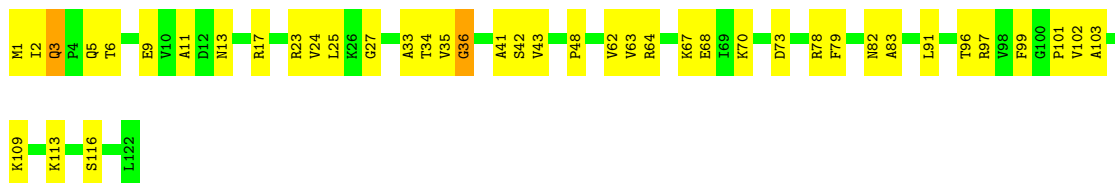
- Molecule 33: 50S ribosomal protein L13

Chain YN:  84% 16% ..



- Molecule 34: 50S ribosomal protein L14

Chain RO:  66% 33% ..



- Molecule 34: 50S ribosomal protein L14

Chain YO: 79% 20%



- Molecule 35: 50S ribosomal protein L15

Chain RP: 64% 29% 7%



- Molecule 35: 50S ribosomal protein L15

Chain YP: 66% 30%



- Molecule 36: 50S ribosomal protein L16

Chain RQ: 67% 33%

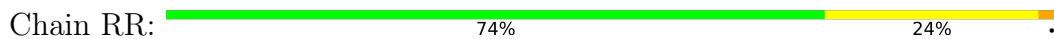


- Molecule 36: 50S ribosomal protein L16

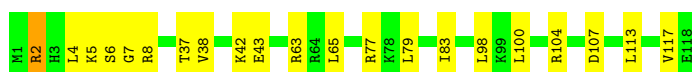
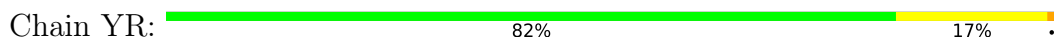
Chain YQ: 79% 21%



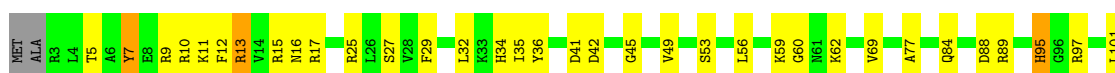
• Molecule 37: 50S ribosomal protein L17



• Molecule 37: 50S ribosomal protein L17



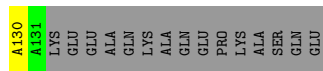
• Molecule 38: 50S ribosomal protein L18



• Molecule 38: 50S ribosomal protein L18



• Molecule 39: 50S ribosomal protein L19

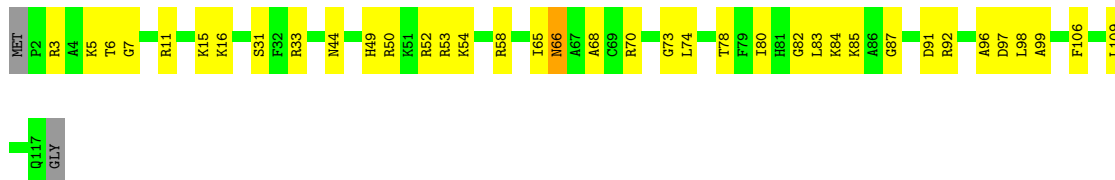


• Molecule 39: 50S ribosomal protein L19

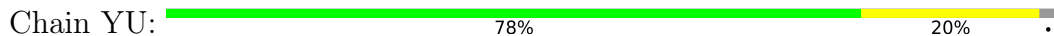




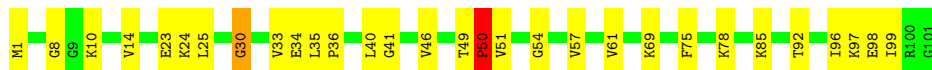
• Molecule 40: 50S ribosomal protein L20



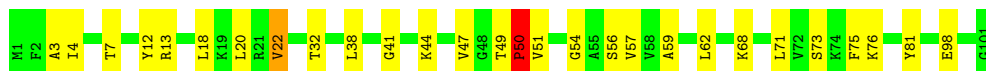
• Molecule 40: 50S ribosomal protein L20



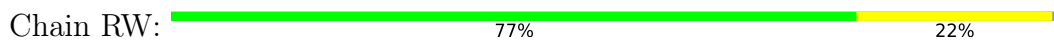
• Molecule 41: 50S ribosomal protein L21



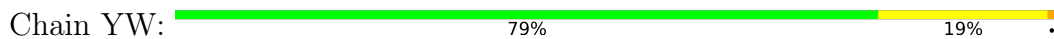
• Molecule 41: 50S ribosomal protein L21



• Molecule 42: 50S ribosomal protein L22



• Molecule 42: 50S ribosomal protein L22

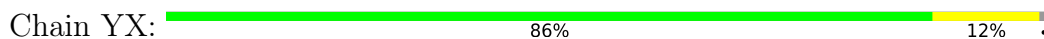




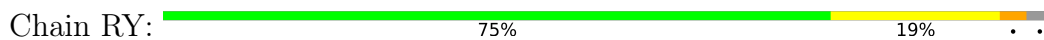
- Molecule 43: 50S ribosomal protein L23



- Molecule 43: 50S ribosomal protein L23



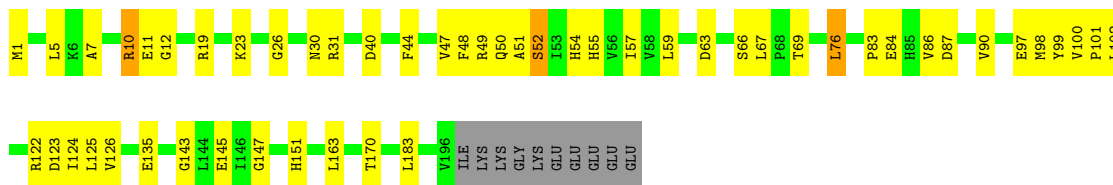
- Molecule 44: 50S ribosomal protein L24



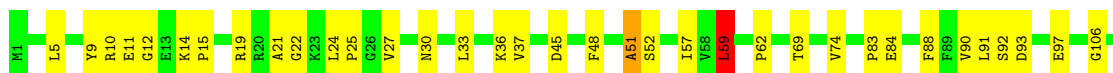
- Molecule 44: 50S ribosomal protein L24



- Molecule 45: 50S ribosomal protein L25



- Molecule 45: 50S ribosomal protein L25

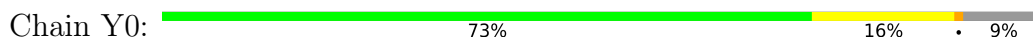




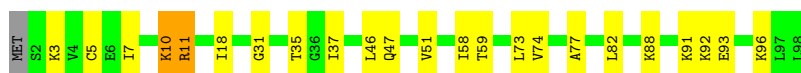
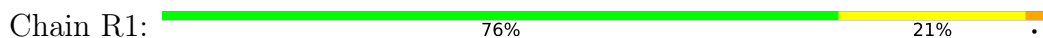
- Molecule 46: 50S ribosomal protein L27



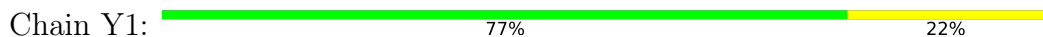
- Molecule 46: 50S ribosomal protein L27



- Molecule 47: 50S ribosomal protein L28



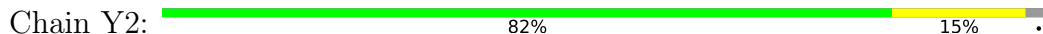
- Molecule 47: 50S ribosomal protein L28



- Molecule 48: 50S ribosomal protein L29

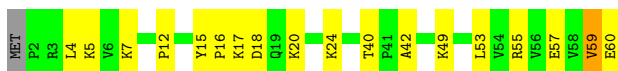


- Molecule 48: 50S ribosomal protein L29



- Molecule 49: 50S ribosomal protein L30

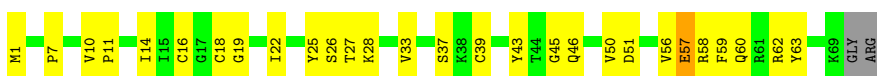




- Molecule 49: 50S ribosomal protein L30



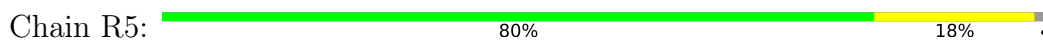
- Molecule 50: 50S ribosomal protein L31



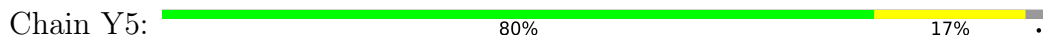
- Molecule 50: 50S ribosomal protein L31



- Molecule 51: 50S ribosomal protein L32



- Molecule 51: 50S ribosomal protein L32



- Molecule 52: 50S ribosomal protein L33



- Molecule 52: 50S ribosomal protein L33

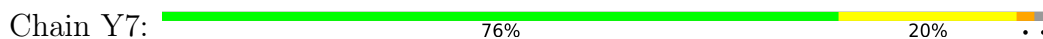




- Molecule 53: 50S ribosomal protein L34



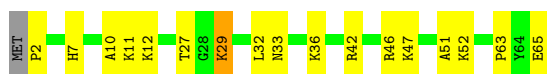
- Molecule 53: 50S ribosomal protein L34



- Molecule 54: 50S ribosomal protein L35



- Molecule 54: 50S ribosomal protein L35



- Molecule 55: 50S ribosomal protein L36



- Molecule 55: 50S ribosomal protein L36



- Molecule 56: tRNA acceptor end mimic





- Molecule 56: tRNA acceptor end mimic

Chain ZB: 33% 67%



4 Data and refinement statistics

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	208.91Å 445.91Å 617.31Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.17 – 3.64	Depositor
% Data completeness (in resolution range)	93.4 (49.17-3.64)	Depositor
R_{merge}	0.24	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.37 (at 3.67Å)	Xtrriage
Refinement program	PHENIX 1.14_3260	Depositor
R, R_{free}	0.208 , 0.250	Depositor
Wilson B-factor (Å ²)	123.8	Xtrriage
Anisotropy	0.381	Xtrriage
L-test for twinning ²	$\langle L \rangle = 0.37$, $\langle L^2 \rangle = 0.20$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	291822	wwPDB-VP
Average B, all atoms (Å ²)	150.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.02% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: OMG, UR3, OMC, 5MU, 5MC, 2MG, 4OC, OMU, MG, MA6, M2G, ZN, PSU, SF4, 0TD, PPU, 2MA, G7M

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	QA	0.92	1/35795 (0.0%)	1.25	264/55864 (0.5%)
1	XA	1.03	8/35890 (0.0%)	1.25	234/56012 (0.4%)
2	QB	0.36	0/1942	0.64	0/2619
2	XB	0.39	0/1950	0.59	0/2630
3	QC	0.36	0/1629	0.60	1/2195 (0.0%)
3	XC	0.42	0/1629	0.59	0/2195
4	QD	0.47	0/1733	0.66	0/2318
4	XD	0.48	0/1733	0.61	0/2318
5	QE	0.40	0/1149	0.61	0/1548
5	XE	0.47	0/1149	0.59	0/1548
6	QF	0.40	0/850	0.56	0/1147
6	XF	0.49	0/850	0.60	1/1147 (0.1%)
7	QG	0.36	0/1276	0.55	0/1709
7	XG	0.43	0/1276	0.56	0/1709
8	QH	0.43	0/1128	0.59	0/1517
8	XH	0.44	0/1128	0.59	0/1517
9	QI	0.38	0/1029	0.62	0/1379
9	XI	0.42	0/1017	0.64	0/1365
10	QJ	0.37	0/814	0.61	0/1095
10	XJ	0.40	0/790	0.52	0/1063
11	QK	0.42	0/859	0.54	0/1162
11	XK	0.41	0/859	0.52	0/1162
12	QL	0.49	0/963	0.65	0/1287
12	XL	0.52	0/963	0.60	0/1287
13	QM	0.41	0/938	0.64	0/1258
13	XM	0.45	0/926	0.61	0/1241
14	QN	0.40	0/501	0.59	0/664
14	XN	0.48	0/501	0.60	0/664
15	QO	0.38	0/745	0.55	0/992
15	XO	0.45	0/745	0.62	0/992
16	QP	0.50	0/707	0.56	0/951

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
16	XP	0.43	0/707	0.57	0/951
17	QQ	0.45	0/836	0.58	0/1117
17	XQ	0.45	0/836	0.56	0/1117
18	QR	0.38	0/560	0.58	0/746
18	XR	0.45	0/560	0.60	0/746
19	QS	0.33	0/680	0.57	0/915
19	XS	0.44	0/680	0.58	0/915
20	QT	0.43	0/745	0.57	0/981
20	XT	0.34	0/762	0.57	0/1003
21	QU	0.37	0/203	0.54	0/266
21	XU	0.41	0/203	0.47	0/266
22	QV	0.90	1/1836 (0.1%)	1.28	31/2859 (1.1%)
22	XV	1.16	1/1836 (0.1%)	1.40	25/2859 (0.9%)
23	QX	0.71	0/185	1.34	1/285 (0.4%)
23	XX	0.89	0/260	1.69	8/402 (2.0%)
24	QY	0.69	0/336	1.25	3/522 (0.6%)
24	XY	0.71	0/381	1.39	7/593 (1.2%)
25	RA	1.20	15/68971 (0.0%)	1.33	622/107656 (0.6%)
25	YA	1.36	49/68976 (0.1%)	1.43	918/107668 (0.9%)
26	RB	0.78	0/2876	1.27	26/4486 (0.6%)
26	YB	1.09	0/2878	1.27	18/4490 (0.4%)
27	RD	0.60	0/2194	0.59	0/2955
27	YD	0.67	0/2195	0.62	0/2955
28	RE	0.57	0/1596	0.59	0/2153
28	YE	0.61	0/1596	0.65	0/2153
29	RF	0.60	1/1620 (0.1%)	0.61	0/2194
29	YF	0.65	0/1620	0.64	1/2194 (0.0%)
30	RG	0.40	0/1499	0.69	0/2016
30	YG	0.53	0/1499	0.67	1/2016 (0.0%)
31	RH	0.38	0/1362	0.58	0/1841
31	YH	0.55	0/1356	0.58	0/1833
32	RI	0.42	0/1151	0.68	1/1558 (0.1%)
32	YI	0.44	0/1151	0.67	0/1558
33	RN	0.51	0/1148	0.55	0/1547
33	YN	0.58	0/1148	0.54	0/1547
34	RO	0.56	0/943	0.67	1/1269 (0.1%)
34	YO	0.64	0/943	0.67	2/1269 (0.2%)
35	RP	0.50	0/1156	0.60	0/1537
35	YP	0.56	0/1156	0.62	0/1537
36	RQ	0.50	0/1143	0.58	0/1527
36	YQ	0.59	0/1143	0.59	0/1527
37	RR	0.56	0/982	0.66	0/1312
37	YR	0.54	0/982	0.62	0/1312

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	RS	0.39	0/887	0.63	1/1180 (0.1%)
38	YS	0.49	0/887	0.62	0/1180
39	RT	0.52	0/1105	0.57	0/1477
39	YT	0.58	0/1105	0.58	0/1477
40	RU	0.52	0/977	0.52	0/1301
40	YU	0.61	0/977	0.54	0/1301
41	RV	0.48	0/790	0.64	0/1057
41	YV	0.59	0/790	0.67	0/1057
42	RW	0.60	0/901	0.55	0/1209
42	YW	0.62	0/901	0.54	0/1209
43	RX	0.54	0/764	0.57	1/1025 (0.1%)
43	YX	0.63	0/764	0.59	0/1025
44	RY	0.49	0/831	0.59	0/1108
44	YY	0.57	0/831	0.61	0/1108
45	RZ	0.42	0/1585	0.61	1/2153 (0.0%)
45	YZ	0.50	0/1493	0.65	1/2026 (0.0%)
46	R0	0.47	0/619	0.55	0/825
46	Y0	0.59	0/619	0.57	0/825
47	R1	0.52	0/770	0.58	0/1022
47	Y1	0.59	1/770 (0.1%)	0.60	0/1022
48	R2	0.40	0/594	0.52	0/785
48	Y2	0.47	0/594	0.51	0/785
49	R3	0.52	0/474	0.61	0/635
49	Y3	0.52	0/473	0.62	0/635
50	R4	0.36	0/578	0.60	0/776
50	Y4	0.42	0/578	0.63	1/776 (0.1%)
51	R5	0.58	0/473	0.61	0/639
51	Y5	0.57	0/465	0.57	0/629
52	R6	0.32	0/460	0.56	0/613
52	Y6	0.33	0/460	0.64	0/613
53	R7	0.58	0/426	0.59	0/561
53	Y7	0.62	0/426	0.63	0/561
54	R8	0.52	0/525	0.58	0/691
54	Y8	0.59	0/525	0.65	0/691
55	R9	0.29	0/310	0.56	0/407
55	Y9	0.38	0/310	0.59	0/407
56	ZA	0.64	0/40	1.52	4/60 (6.7%)
56	ZB	1.26	0/40	1.60	0/60
All	All	1.02	77/314471 (0.0%)	1.18	2174/470119 (0.5%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a

sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	XA	0	1
2	QB	0	30
2	XB	0	23
3	QC	0	24
3	XC	0	16
4	QD	0	18
4	XD	0	8
5	QE	0	13
5	XE	0	15
6	QF	0	6
6	XF	0	5
7	QG	0	10
7	XG	0	10
8	QH	0	14
8	XH	0	6
9	QI	0	22
9	XI	0	9
10	QJ	0	10
10	XJ	0	8
11	QK	0	6
11	XK	0	11
12	QL	0	13
12	XL	0	10
13	QM	0	12
13	XM	0	7
14	QN	0	5
14	XN	0	6
15	QO	0	4
15	XO	0	3
16	QP	0	10
16	XP	0	4
17	QQ	0	7
17	XQ	0	5
18	QR	0	3
18	XR	0	1
19	QS	0	10
19	XS	0	8
20	QT	0	6
20	XT	0	4
21	QU	0	3
21	XU	0	2
25	YA	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
27	RD	0	17
27	YD	0	9
28	RE	0	14
28	YE	0	16
29	RF	0	15
29	YF	0	19
30	RG	0	29
30	YG	0	19
31	RH	0	20
31	YH	0	5
32	RI	0	26
32	YI	0	19
33	RN	0	7
33	YN	0	5
34	RO	0	5
34	YO	0	1
35	RP	0	23
35	YP	0	18
36	RQ	0	4
36	YQ	0	4
37	RR	0	5
37	YR	0	5
38	RS	0	5
38	YS	0	5
39	RT	0	5
39	YT	0	5
40	RU	0	6
40	YU	0	1
41	RV	0	8
41	YV	0	9
42	RW	0	2
42	YW	0	5
43	RX	0	4
43	YX	0	3
44	RY	0	6
44	YY	0	6
45	RZ	0	13
45	YZ	0	22
46	R0	0	5
46	Y0	0	3
47	R1	0	5
47	Y1	0	4

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Mol	Chain	#Chirality outliers	#Planarity outliers
48	R2	0	3
48	Y2	0	1
49	R3	0	2
49	Y3	0	4
50	R4	0	10
50	Y4	0	11
51	R5	0	2
51	Y5	0	3
52	R6	0	5
52	Y6	0	5
53	R7	0	4
53	Y7	0	2
54	R8	0	1
54	Y8	0	4
55	R9	0	4
55	Y9	0	1
All	All	0	858

The worst 5 of 77 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	XA	88	A	C3'-C2'	11.98	1.66	1.52
22	XV	1	C	OP3-P	-9.54	1.49	1.61
22	QV	1	C	OP3-P	-9.31	1.50	1.61
1	XA	88	A	C1'-N9	7.29	1.59	1.48
1	XA	88	A	C4'-O4'	7.00	1.54	1.45

The worst 5 of 2174 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	88	A	O4'-C1'-C2'	16.46	122.42	107.60
1	XA	359	U	C2-N1-C1'	15.95	136.84	117.70
25	YA	2415	G	N3-C2-N2	-15.63	108.96	119.90
23	XX	19	C	N1-C2-O2	13.47	126.98	118.90
1	XA	358	U	N1-C1'-C2'	-12.81	97.35	114.00

There are no chirality outliers.

5 of 858 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	QB	13	ALA	Peptide

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Mol	Chain	Res	Type	Group
2	QB	15	VAL	Peptide
2	QB	17	PHE	Peptide
2	QB	19	HIS	Peptide
2	QB	21	ARG	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32246	0	16294	685	0
1	XA	32331	0	16338	595	14
2	QB	1907	0	1958	42	0
2	XB	1915	0	1969	45	0
3	QC	1605	0	1668	48	0
3	XC	1605	0	1668	20	1
4	QD	1703	0	1762	81	0
4	XD	1703	0	1763	52	6
5	QE	1133	0	1190	32	0
5	XE	1133	0	1191	23	0
6	QF	837	0	852	11	1
6	XF	837	0	852	15	0
7	QG	1257	0	1296	34	0
7	XG	1257	0	1296	26	0
8	QH	1108	0	1165	33	0
8	XH	1108	0	1165	27	0
9	QI	1010	0	1037	36	0
9	XI	998	0	1024	29	0
10	QJ	801	0	849	29	0
10	XJ	777	0	815	16	0
11	QK	844	0	855	29	1
11	XK	844	0	855	22	0
12	QL	958	0	1047	23	0
12	XL	958	0	1047	19	0
13	QM	928	0	987	37	0
13	XM	916	0	973	20	0
14	QN	492	0	530	30	0
14	XN	492	0	528	11	0
15	QO	734	0	771	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	XO	734	0	771	10	0
16	QP	691	0	714	17	0
16	XP	691	0	714	19	0
17	QQ	823	0	891	24	0
17	XQ	823	0	891	20	0
18	QR	555	0	618	11	0
18	XR	555	0	618	8	0
19	QS	665	0	686	13	0
19	XS	665	0	686	20	0
20	QT	743	0	840	22	0
20	XT	759	0	861	24	0
21	QU	199	0	208	10	0
21	XU	199	0	208	8	0
22	QV	1644	0	835	29	0
22	XV	1644	0	836	26	0
23	QX	167	0	86	2	0
23	XX	233	0	120	4	0
24	QY	301	0	152	5	0
24	XY	341	0	175	8	0
25	RA	61819	0	31179	950	3
25	YA	61822	0	31176	961	3
26	RB	2572	0	1305	44	0
26	YB	2573	0	1306	28	0
27	RD	2144	0	2233	57	3
27	YD	2145	0	2234	53	0
28	RE	1563	0	1629	44	0
28	YE	1563	0	1628	44	0
29	RF	1585	0	1632	35	0
29	YF	1585	0	1632	43	0
30	RG	1474	0	1535	40	0
30	YG	1474	0	1535	29	0
31	RH	1336	0	1418	30	0
31	YH	1330	0	1413	28	13
32	RI	1136	0	1223	26	14
32	YI	1136	0	1223	13	0
33	RN	1121	0	1195	25	0
33	YN	1121	0	1195	16	0
34	RO	933	0	996	32	0
34	YO	933	0	996	22	0
35	RP	1139	0	1222	35	0
35	YP	1139	0	1222	36	0
36	RQ	1122	0	1179	33	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	YQ	1122	0	1179	20	0
37	RR	968	0	1033	22	0
37	YR	968	0	1033	17	0
38	RS	877	0	938	26	0
38	YS	877	0	938	28	0
39	RT	1091	0	1151	25	0
39	YT	1091	0	1151	32	0
40	RU	959	0	1019	28	0
40	YU	959	0	1019	25	0
41	RV	779	0	852	16	0
41	YV	779	0	852	13	6
42	RW	890	0	951	17	1
42	YW	890	0	951	17	0
43	RX	750	0	814	16	0
43	YX	750	0	814	7	0
44	RY	818	0	913	13	0
44	YY	818	0	911	15	14
45	RZ	1552	0	1573	31	0
45	YZ	1461	0	1493	24	0
46	R0	611	0	631	13	0
46	Y0	611	0	631	12	0
47	R1	763	0	848	15	0
47	Y1	763	0	848	11	0
48	R2	592	0	654	10	0
48	Y2	592	0	654	6	1
49	R3	469	0	518	12	0
49	Y3	468	0	518	15	0
50	R4	565	0	556	14	0
50	Y4	565	0	557	13	0
51	R5	459	0	480	8	0
51	Y5	451	0	471	6	3
52	R6	453	0	477	6	0
52	Y6	453	0	477	8	0
53	R7	418	0	467	12	0
53	Y7	418	0	467	8	0
54	R8	517	0	582	15	0
54	Y8	517	0	582	12	0
55	R9	307	0	335	10	0
55	Y9	307	0	338	8	0
56	ZA	74	0	51	13	0
56	ZB	74	0	51	5	0
57	QA	124	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	QC	1	0	0	0	0
57	QD	2	0	0	0	0
57	QE	2	0	0	0	0
57	QL	2	0	0	0	0
57	QM	2	0	0	0	0
57	QN	2	0	0	2	0
57	QO	1	0	0	0	0
57	QV	3	0	0	0	0
57	R0	2	0	0	0	0
57	R1	1	0	0	0	0
57	R3	1	0	0	0	0
57	R5	1	0	0	0	0
57	R6	1	0	0	0	0
57	R7	1	0	0	0	0
57	R8	1	0	0	0	0
57	R9	1	0	0	0	0
57	RA	414	0	0	2	0
57	RB	8	0	0	2	0
57	RD	5	0	0	2	0
57	RE	5	0	0	2	0
57	RF	5	0	0	0	0
57	RN	2	0	0	0	0
57	RO	1	0	0	0	0
57	RP	2	0	0	0	0
57	RQ	1	0	0	0	0
57	RR	1	0	0	0	0
57	RV	1	0	0	0	0
57	RW	1	0	0	0	0
57	RX	1	0	0	0	0
57	RZ	1	0	0	0	0
57	XA	128	0	0	0	0
57	XD	1	0	0	0	0
57	XJ	1	0	0	0	0
57	XK	2	0	0	0	0
57	XN	1	0	0	0	0
57	XV	1	0	0	0	0
57	XX	1	0	0	0	0
57	Y0	1	0	0	0	0
57	Y1	3	0	0	0	0
57	Y3	1	0	0	0	0
57	Y5	1	0	0	0	0
57	Y6	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	Y7	1	0	0	0	0
57	Y8	1	0	0	0	0
57	Y9	1	0	0	0	0
57	YA	544	0	0	1	0
57	YB	8	0	0	0	0
57	YD	8	0	0	0	0
57	YE	7	0	0	1	0
57	YF	1	0	0	0	0
57	YG	1	0	0	0	0
57	YP	3	0	0	0	0
57	YQ	2	0	0	0	0
57	YR	1	0	0	0	0
57	YT	1	0	0	0	0
57	YU	1	0	0	0	0
57	YV	1	0	0	0	0
57	YW	1	0	0	0	0
57	YX	1	0	0	0	0
58	QD	8	0	0	6	0
58	XD	8	0	0	4	0
59	QN	1	0	0	1	0
59	R4	1	0	0	0	0
59	R9	1	0	0	0	0
59	XN	1	0	0	0	0
59	Y4	1	0	0	0	0
All	All	291822	0	197739	4729	42

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 10.

The worst 5 of 4729 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RE:152:LYS:HG3	33:RN:77:GLY:O	1.40	1.18
49:Y3:10:LYS:NZ	49:Y3:15:TYR:OH	1.81	1.13
25:YA:2228:G:OP1	27:YD:261:LYS:NZ	1.83	1.12
1:QA:982:U:H3	1:QA:1223:C:N4	1.52	1.08
1:QA:1055:A:H62	1:QA:1200:C:N4	1.56	1.04

The worst 5 of 42 symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YH:46:GLU:CG	44:YY:22:GLY:O[4_445]	1.23	0.97
31:YH:46:GLU:CB	44:YY:22:GLY:O[4_445]	1.41	0.79
32:RI:89:TYR:CD2	1:XA:55:A:C2[4_555]	1.42	0.78
27:RD:134:ARG:NE	4:XD:166:LYS:NZ[4_555]	1.53	0.67
32:RI:89:TYR:CE2	1:XA:55:A:N3[4_555]	1.58	0.62

5.3 Torsion angles [\(i\)](#)

5.3.1 Protein backbone [\(i\)](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	QB	233/256 (91%)	204 (88%)	29 (12%)	0	100	100
2	XB	234/256 (91%)	204 (87%)	30 (13%)	0	100	100
3	QC	203/239 (85%)	184 (91%)	19 (9%)	0	100	100
3	XC	203/239 (85%)	183 (90%)	20 (10%)	0	100	100
4	QD	206/209 (99%)	183 (89%)	21 (10%)	2 (1%)	15	54
4	XD	206/209 (99%)	196 (95%)	10 (5%)	0	100	100
5	QE	146/162 (90%)	134 (92%)	12 (8%)	0	100	100
5	XE	146/162 (90%)	134 (92%)	12 (8%)	0	100	100
6	QF	98/101 (97%)	96 (98%)	2 (2%)	0	100	100
6	XF	98/101 (97%)	96 (98%)	2 (2%)	0	100	100
7	QG	153/156 (98%)	145 (95%)	8 (5%)	0	100	100
7	XG	153/156 (98%)	147 (96%)	6 (4%)	0	100	100
8	QH	135/138 (98%)	128 (95%)	7 (5%)	0	100	100
8	XH	135/138 (98%)	129 (96%)	6 (4%)	0	100	100
9	QI	125/128 (98%)	111 (89%)	14 (11%)	0	100	100
9	XI	124/128 (97%)	110 (89%)	14 (11%)	0	100	100
10	QJ	97/105 (92%)	90 (93%)	7 (7%)	0	100	100
10	XJ	94/105 (90%)	83 (88%)	11 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	QK	112/129 (87%)	105 (94%)	7 (6%)	0	100	100
11	XK	112/129 (87%)	104 (93%)	8 (7%)	0	100	100
12	QL	119/132 (90%)	113 (95%)	6 (5%)	0	100	100
12	XL	119/132 (90%)	112 (94%)	7 (6%)	0	100	100
13	QM	114/126 (90%)	108 (95%)	6 (5%)	0	100	100
13	XM	112/126 (89%)	102 (91%)	10 (9%)	0	100	100
14	QN	58/61 (95%)	56 (97%)	2 (3%)	0	100	100
14	XN	58/61 (95%)	57 (98%)	1 (2%)	0	100	100
15	QO	86/89 (97%)	84 (98%)	2 (2%)	0	100	100
15	XO	86/89 (97%)	80 (93%)	6 (7%)	0	100	100
16	QP	80/88 (91%)	77 (96%)	3 (4%)	0	100	100
16	XP	80/88 (91%)	76 (95%)	4 (5%)	0	100	100
17	QQ	97/105 (92%)	88 (91%)	9 (9%)	0	100	100
17	XQ	97/105 (92%)	92 (95%)	5 (5%)	0	100	100
18	QR	66/88 (75%)	66 (100%)	0	0	100	100
18	XR	66/88 (75%)	65 (98%)	1 (2%)	0	100	100
19	QS	81/93 (87%)	73 (90%)	8 (10%)	0	100	100
19	XS	81/93 (87%)	78 (96%)	3 (4%)	0	100	100
20	QT	94/106 (89%)	89 (95%)	5 (5%)	0	100	100
20	XT	96/106 (91%)	91 (95%)	5 (5%)	0	100	100
21	QU	21/27 (78%)	20 (95%)	1 (5%)	0	100	100
21	XU	21/27 (78%)	21 (100%)	0	0	100	100
27	RD	273/276 (99%)	260 (95%)	13 (5%)	0	100	100
27	YD	273/276 (99%)	252 (92%)	21 (8%)	0	100	100
28	RE	202/206 (98%)	184 (91%)	17 (8%)	1 (0%)	29	67
28	YE	202/206 (98%)	181 (90%)	21 (10%)	0	100	100
29	RF	200/210 (95%)	192 (96%)	8 (4%)	0	100	100
29	YF	200/210 (95%)	188 (94%)	12 (6%)	0	100	100
30	RG	179/182 (98%)	156 (87%)	23 (13%)	0	100	100
30	YG	179/182 (98%)	151 (84%)	27 (15%)	1 (1%)	25	63
31	RH	172/180 (96%)	166 (96%)	6 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	YH	171/180 (95%)	162 (95%)	8 (5%)	1 (1%)	25	63
32	RI	144/148 (97%)	115 (80%)	28 (19%)	1 (1%)	22	61
32	YI	144/148 (97%)	125 (87%)	19 (13%)	0	100	100
33	RN	138/140 (99%)	132 (96%)	6 (4%)	0	100	100
33	YN	138/140 (99%)	131 (95%)	7 (5%)	0	100	100
34	RO	120/122 (98%)	109 (91%)	11 (9%)	0	100	100
34	YO	120/122 (98%)	112 (93%)	8 (7%)	0	100	100
35	RP	147/150 (98%)	136 (92%)	10 (7%)	1 (1%)	22	61
35	YP	147/150 (98%)	135 (92%)	12 (8%)	0	100	100
36	RQ	139/141 (99%)	134 (96%)	5 (4%)	0	100	100
36	YQ	139/141 (99%)	132 (95%)	7 (5%)	0	100	100
37	RR	116/118 (98%)	114 (98%)	2 (2%)	0	100	100
37	YR	116/118 (98%)	111 (96%)	5 (4%)	0	100	100
38	RS	108/112 (96%)	103 (95%)	5 (5%)	0	100	100
38	YS	108/112 (96%)	101 (94%)	7 (6%)	0	100	100
39	RT	129/146 (88%)	120 (93%)	9 (7%)	0	100	100
39	YT	129/146 (88%)	124 (96%)	5 (4%)	0	100	100
40	RU	114/118 (97%)	107 (94%)	7 (6%)	0	100	100
40	YU	114/118 (97%)	111 (97%)	3 (3%)	0	100	100
41	RV	99/101 (98%)	93 (94%)	5 (5%)	1 (1%)	15	54
41	YV	99/101 (98%)	88 (89%)	10 (10%)	1 (1%)	15	54
42	RW	110/113 (97%)	105 (96%)	5 (4%)	0	100	100
42	YW	110/113 (97%)	107 (97%)	3 (3%)	0	100	100
43	RX	93/96 (97%)	84 (90%)	9 (10%)	0	100	100
43	YX	93/96 (97%)	89 (96%)	4 (4%)	0	100	100
44	RY	105/110 (96%)	98 (93%)	7 (7%)	0	100	100
44	YY	105/110 (96%)	101 (96%)	4 (4%)	0	100	100
45	RZ	194/206 (94%)	181 (93%)	13 (7%)	0	100	100
45	YZ	181/206 (88%)	154 (85%)	27 (15%)	0	100	100
46	R0	75/85 (88%)	73 (97%)	2 (3%)	0	100	100
46	Y0	75/85 (88%)	72 (96%)	3 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
47	R1	95/98 (97%)	91 (96%)	4 (4%)	0	100	100
47	Y1	95/98 (97%)	91 (96%)	4 (4%)	0	100	100
48	R2	68/72 (94%)	67 (98%)	1 (2%)	0	100	100
48	Y2	68/72 (94%)	66 (97%)	2 (3%)	0	100	100
49	R3	57/60 (95%)	56 (98%)	1 (2%)	0	100	100
49	Y3	57/60 (95%)	57 (100%)	0	0	100	100
50	R4	67/71 (94%)	53 (79%)	14 (21%)	0	100	100
50	Y4	67/71 (94%)	53 (79%)	14 (21%)	0	100	100
51	R5	57/60 (95%)	54 (95%)	3 (5%)	0	100	100
51	Y5	56/60 (93%)	54 (96%)	2 (4%)	0	100	100
52	R6	51/54 (94%)	50 (98%)	1 (2%)	0	100	100
52	Y6	51/54 (94%)	49 (96%)	2 (4%)	0	100	100
53	R7	46/49 (94%)	42 (91%)	4 (9%)	0	100	100
53	Y7	46/49 (94%)	44 (96%)	2 (4%)	0	100	100
54	R8	62/65 (95%)	55 (89%)	7 (11%)	0	100	100
54	Y8	62/65 (95%)	59 (95%)	3 (5%)	0	100	100
55	R9	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
55	Y9	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
All	All	11420/12128 (94%)	10610 (93%)	801 (7%)	9 (0%)	51	83

5 of 9 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	QD	32	ALA
4	QD	31	CYS
30	YG	81	LYS
32	RI	132	PRO
41	RV	50	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	QB	203/220 (92%)	201 (99%)	2 (1%)	76	88
2	XB	204/220 (93%)	201 (98%)	3 (2%)	65	83
3	QC	159/188 (85%)	158 (99%)	1 (1%)	86	94
3	XC	159/188 (85%)	157 (99%)	2 (1%)	69	85
4	QD	180/181 (99%)	175 (97%)	5 (3%)	43	71
4	XD	180/181 (99%)	175 (97%)	5 (3%)	43	71
5	QE	114/123 (93%)	114 (100%)	0	100	100
5	XE	114/123 (93%)	113 (99%)	1 (1%)	78	89
6	QF	90/90 (100%)	89 (99%)	1 (1%)	73	87
6	XF	90/90 (100%)	89 (99%)	1 (1%)	73	87
7	QG	126/127 (99%)	123 (98%)	3 (2%)	49	74
7	XG	126/127 (99%)	126 (100%)	0	100	100
8	QH	118/119 (99%)	118 (100%)	0	100	100
8	XH	118/119 (99%)	117 (99%)	1 (1%)	81	91
9	QI	98/99 (99%)	98 (100%)	0	100	100
9	XI	97/99 (98%)	96 (99%)	1 (1%)	76	88
10	QJ	89/92 (97%)	89 (100%)	0	100	100
10	XJ	86/92 (94%)	86 (100%)	0	100	100
11	QK	86/99 (87%)	85 (99%)	1 (1%)	71	86
11	XK	86/99 (87%)	86 (100%)	0	100	100
12	QL	102/108 (94%)	102 (100%)	0	100	100
12	XL	102/108 (94%)	102 (100%)	0	100	100
13	QM	94/101 (93%)	93 (99%)	1 (1%)	73	87
13	XM	93/101 (92%)	93 (100%)	0	100	100
14	QN	49/50 (98%)	47 (96%)	2 (4%)	30	63
14	XN	49/50 (98%)	49 (100%)	0	100	100
15	QO	79/80 (99%)	78 (99%)	1 (1%)	69	85
15	XO	79/80 (99%)	78 (99%)	1 (1%)	69	85
16	QP	71/74 (96%)	71 (100%)	0	100	100
16	XP	71/74 (96%)	71 (100%)	0	100	100
17	QQ	94/97 (97%)	93 (99%)	1 (1%)	73	87

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	XQ	94/97 (97%)	93 (99%)	1 (1%)	73	87
18	QR	59/77 (77%)	59 (100%)	0	100	100
18	XR	59/77 (77%)	58 (98%)	1 (2%)	60	81
19	QS	72/80 (90%)	72 (100%)	0	100	100
19	XS	72/80 (90%)	72 (100%)	0	100	100
20	QT	74/82 (90%)	74 (100%)	0	100	100
20	XT	76/82 (93%)	75 (99%)	1 (1%)	69	85
21	QU	18/22 (82%)	18 (100%)	0	100	100
21	XU	18/22 (82%)	18 (100%)	0	100	100
27	RD	217/218 (100%)	217 (100%)	0	100	100
27	YD	217/218 (100%)	217 (100%)	0	100	100
28	RE	165/166 (99%)	165 (100%)	0	100	100
28	YE	165/166 (99%)	163 (99%)	2 (1%)	71	86
29	RF	161/166 (97%)	161 (100%)	0	100	100
29	YF	161/166 (97%)	160 (99%)	1 (1%)	86	94
30	RG	155/156 (99%)	155 (100%)	0	100	100
30	YG	155/156 (99%)	154 (99%)	1 (1%)	86	94
31	RH	145/148 (98%)	145 (100%)	0	100	100
31	YH	144/148 (97%)	142 (99%)	2 (1%)	67	84
32	RI	122/124 (98%)	122 (100%)	0	100	100
32	YI	122/124 (98%)	122 (100%)	0	100	100
33	RN	119/119 (100%)	117 (98%)	2 (2%)	60	81
33	YN	119/119 (100%)	119 (100%)	0	100	100
34	RO	100/100 (100%)	100 (100%)	0	100	100
34	YO	100/100 (100%)	100 (100%)	0	100	100
35	RP	116/116 (100%)	116 (100%)	0	100	100
35	YP	116/116 (100%)	115 (99%)	1 (1%)	78	89
36	RQ	111/111 (100%)	111 (100%)	0	100	100
36	YQ	111/111 (100%)	110 (99%)	1 (1%)	78	89
37	RR	101/101 (100%)	99 (98%)	2 (2%)	55	78
37	YR	101/101 (100%)	101 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	RS	87/88 (99%)	86 (99%)	1 (1%)	73	87
38	YS	87/88 (99%)	87 (100%)	0	100	100
39	RT	115/127 (91%)	115 (100%)	0	100	100
39	YT	115/127 (91%)	115 (100%)	0	100	100
40	RU	93/94 (99%)	93 (100%)	0	100	100
40	YU	93/94 (99%)	92 (99%)	1 (1%)	73	87
41	RV	82/82 (100%)	82 (100%)	0	100	100
41	YV	82/82 (100%)	81 (99%)	1 (1%)	71	86
42	RW	91/92 (99%)	91 (100%)	0	100	100
42	YW	91/92 (99%)	91 (100%)	0	100	100
43	RX	77/78 (99%)	77 (100%)	0	100	100
43	YX	77/78 (99%)	77 (100%)	0	100	100
44	RY	88/91 (97%)	87 (99%)	1 (1%)	73	87
44	YY	88/91 (97%)	88 (100%)	0	100	100
45	RZ	170/179 (95%)	169 (99%)	1 (1%)	86	94
45	YZ	162/179 (90%)	160 (99%)	2 (1%)	71	86
46	R0	62/67 (92%)	61 (98%)	1 (2%)	62	82
46	Y0	62/67 (92%)	62 (100%)	0	100	100
47	R1	82/83 (99%)	82 (100%)	0	100	100
47	Y1	82/83 (99%)	82 (100%)	0	100	100
48	R2	66/67 (98%)	65 (98%)	1 (2%)	65	83
48	Y2	66/67 (98%)	66 (100%)	0	100	100
49	R3	51/52 (98%)	49 (96%)	2 (4%)	32	64
49	Y3	51/52 (98%)	51 (100%)	0	100	100
50	R4	62/63 (98%)	62 (100%)	0	100	100
50	Y4	62/63 (98%)	61 (98%)	1 (2%)	62	82
51	R5	51/52 (98%)	50 (98%)	1 (2%)	55	78
51	Y5	50/52 (96%)	49 (98%)	1 (2%)	55	78
52	R6	51/52 (98%)	50 (98%)	1 (2%)	55	78
52	Y6	51/52 (98%)	48 (94%)	3 (6%)	19	54
53	R7	41/42 (98%)	40 (98%)	1 (2%)	49	74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
53	Y7	41/42 (98%)	41 (100%)	0	100	100
54	R8	54/55 (98%)	54 (100%)	0	100	100
54	Y8	54/55 (98%)	54 (100%)	0	100	100
55	R9	34/34 (100%)	33 (97%)	1 (3%)	42	71
55	Y9	34/34 (100%)	34 (100%)	0	100	100
All	All	9676/10064 (96%)	9608 (99%)	68 (1%)	84	92

5 of 68 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
35	YP	32	THR
40	YU	95	LEU
52	Y6	6	ARG
45	RZ	55	HIS
44	RY	99	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 10 such sidechains are listed below:

Mol	Chain	Res	Type
30	YG	58	GLN
32	YI	133	HIS
52	Y6	49	HIS
35	RP	9	ASN
14	XN	52	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1494/1521 (98%)	292 (19%)	14 (0%)
1	XA	1498/1521 (98%)	287 (19%)	14 (0%)
22	QV	76/77 (98%)	18 (23%)	0
22	XV	76/77 (98%)	17 (22%)	1 (1%)
23	QX	7/26 (26%)	1 (14%)	1 (14%)
23	XX	10/26 (38%)	7 (70%)	1 (10%)
24	QY	13/18 (72%)	5 (38%)	2 (15%)
24	XY	15/18 (83%)	9 (60%)	1 (6%)
25	RA	2860/2915 (98%)	599 (20%)	21 (0%)
25	YA	2861/2915 (98%)	580 (20%)	19 (0%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
26	RB	119/122 (97%)	17 (14%)	0
26	YB	119/122 (97%)	24 (20%)	0
56	ZA	1/3 (33%)	0	0
56	ZB	1/3 (33%)	1 (100%)	0
All	All	9150/9364 (97%)	1857 (20%)	74 (0%)

5 of 1857 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	11	G
1	QA	21	G
1	QA	22	G
1	QA	32	A
1	QA	39	G

5 of 74 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
25	YA	752	A
25	YA	2439	A
25	YA	856	C
25	YA	1900	A
25	RA	1073	A

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

50 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	5MC	QA	1400	1	18,22,23	0.93	1 (5%)	26,32,35	1.22	1 (3%)
1	PSU	QA	516	1	18,21,22	1.37	3 (16%)	22,30,33	1.91	5 (22%)
25	5MU	RA	1915	25	19,22,23	1.57	5 (26%)	28,32,35	2.43	9 (32%)
25	5MC	YA	1942	25	18,22,23	1.17	2 (11%)	26,32,35	1.54	2 (7%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
25	OMG	YA	2251	25,22,57	18,26,27	1.19	1 (5%)	19,38,41	1.21	4 (21%)
1	5MC	XA	1400	1	18,22,23	0.99	2 (11%)	26,32,35	1.25	2 (7%)
25	5MU	YA	1915	25	19,22,23	1.52	5 (26%)	28,32,35	2.51	9 (32%)
25	OMC	YA	1920	25	19,22,23	0.92	1 (5%)	26,31,34	1.81	5 (19%)
12	0TD	QL	92	12	7,9,10	1.40	1 (14%)	6,11,13	2.18	3 (50%)
1	5MC	XA	1404	1	18,22,23	1.02	1 (5%)	26,32,35	1.35	3 (11%)
25	OMG	RA	2251	25,22,57	18,26,27	1.13	1 (5%)	19,38,41	1.19	2 (10%)
1	4OC	QA	1402	1	20,23,24	0.78	0	26,32,35	0.95	1 (3%)
1	5MC	XA	967	1	18,22,23	0.96	1 (5%)	26,32,35	1.33	2 (7%)
1	5MC	QA	967	1	18,22,23	0.96	2 (11%)	26,32,35	1.30	2 (7%)
56	PPU	ZB	3	25,56	32,40,41	0.89	0	33,57,60	1.57	7 (21%)
25	2MA	YA	2503	25,57	17,25,26	1.26	2 (11%)	17,37,40	0.96	1 (5%)
1	MA6	XA	1518	1	19,26,27	1.00	1 (5%)	18,38,41	1.77	4 (22%)
25	OMU	YA	2552	25,57	19,22,23	1.41	3 (15%)	26,31,34	2.01	7 (26%)
25	PSU	RA	1911	25	18,21,22	1.55	5 (27%)	22,30,33	2.01	4 (18%)
25	OMC	RA	1920	25	19,22,23	0.95	1 (5%)	26,31,34	1.87	8 (30%)
1	G7M	XA	527	1	20,26,27	2.49	4 (20%)	17,39,42	1.00	1 (5%)
25	PSU	YA	1917	25	18,21,22	1.44	3 (16%)	22,30,33	2.01	4 (18%)
1	PSU	XA	516	1,57	18,21,22	1.37	4 (22%)	22,30,33	1.82	5 (22%)
1	2MG	QA	1207	1	18,26,27	1.00	1 (5%)	16,38,41	1.16	3 (18%)
25	5MC	RA	1942	25	18,22,23	1.07	1 (5%)	26,32,35	1.39	2 (7%)
1	UR3	QA	1498	1	19,22,23	0.96	2 (10%)	26,32,35	1.34	2 (7%)
25	PSU	RA	2605	25	18,21,22	1.71	4 (22%)	22,30,33	2.10	5 (22%)
1	MA6	XA	1519	1	19,26,27	0.82	0	18,38,41	2.10	6 (33%)
1	M2G	XA	966	1	20,27,28	1.21	2 (10%)	22,40,43	1.11	3 (13%)
1	MA6	QA	1519	1	19,26,27	0.93	1 (5%)	18,38,41	1.95	6 (33%)
1	M2G	QA	966	1	20,27,28	1.34	3 (15%)	22,40,43	0.99	2 (9%)
1	5MC	XA	1407	1	18,22,23	0.96	2 (11%)	26,32,35	1.39	5 (19%)
1	UR3	XA	1498	1	19,22,23	1.01	2 (10%)	26,32,35	1.39	2 (7%)
1	5MC	QA	1407	1	18,22,23	0.88	2 (11%)	26,32,35	1.10	3 (11%)
12	0TD	XL	92	12	7,9,10	1.38	2 (28%)	6,11,13	1.40	1 (16%)
1	MA6	QA	1518	1	19,26,27	0.88	1 (5%)	18,38,41	1.97	7 (38%)
25	PSU	YA	2605	25	18,21,22	1.60	4 (22%)	22,30,33	2.19	4 (18%)
25	2MA	RA	2503	25,57	17,25,26	1.10	1 (5%)	17,37,40	0.98	2 (11%)
1	G7M	QA	527	1	20,26,27	2.53	4 (20%)	17,39,42	1.04	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
25	5MU	YA	1939	25,57	19,22,23	1.55	4 (21%)	28,32,35	2.20	6 (21%)
1	4OC	XA	1402	1	20,23,24	0.85	1 (5%)	26,32,35	0.95	2 (7%)
25	5MC	YA	1962	25	18,22,23	1.00	1 (5%)	26,32,35	2.27	8 (30%)
1	5MC	QA	1404	1	18,22,23	0.92	1 (5%)	26,32,35	1.42	4 (15%)
25	PSU	YA	1911	25	18,21,22	1.56	5 (27%)	22,30,33	1.89	4 (18%)
25	PSU	RA	1917	25	18,21,22	1.47	4 (22%)	22,30,33	2.08	4 (18%)
56	PPU	ZA	3	25,57,56	32,40,41	0.96	1 (3%)	33,57,60	1.82	7 (21%)
25	5MU	RA	1939	25,57	19,22,23	1.45	4 (21%)	28,32,35	2.31	6 (21%)
25	5MC	RA	1962	25,57	18,22,23	0.98	1 (5%)	26,32,35	1.60	7 (26%)
25	OMU	RA	2552	25	19,22,23	1.38	3 (15%)	26,31,34	1.95	6 (23%)
1	2MG	XA	1207	1	18,26,27	1.08	1 (5%)	16,38,41	1.25	3 (18%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	5MC	QA	1400	1	-	5/7/25/26	0/2/2/2
1	PSU	QA	516	1	-	0/7/25/26	0/2/2/2
25	5MU	RA	1915	25	-	3/7/25/26	0/2/2/2
25	5MC	YA	1942	25	-	0/7/25/26	0/2/2/2
25	OMG	YA	2251	25,22,57	-	0/5/27/28	0/3/3/3
1	5MC	XA	1400	1	-	4/7/25/26	0/2/2/2
25	5MU	YA	1915	25	-	4/7/25/26	0/2/2/2
25	OMC	YA	1920	25	-	4/9/27/28	0/2/2/2
12	0TD	QL	92	12	-	4/7/12/14	-
1	5MC	XA	1404	1	-	0/7/25/26	0/2/2/2
25	OMG	RA	2251	25,22,57	-	0/5/27/28	0/3/3/3
1	4OC	QA	1402	1	-	2/9/29/30	0/2/2/2
1	5MC	XA	967	1	-	0/7/25/26	0/2/2/2
1	5MC	QA	967	1	-	0/7/25/26	0/2/2/2
56	PPU	ZB	3	25,56	-	5/21/43/44	0/4/4/4
25	2MA	YA	2503	25,57	-	2/3/25/26	0/3/3/3
1	MA6	XA	1518	1	-	1/7/29/30	0/3/3/3
25	OMU	YA	2552	25,57	-	2/9/27/28	0/2/2/2
25	PSU	RA	1911	25	-	0/7/25/26	0/2/2/2
25	OMC	RA	1920	25	-	4/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	G7M	XA	527	1	-	2/3/25/26	0/3/3/3
25	PSU	YA	1917	25	-	0/7/25/26	0/2/2/2
1	PSU	XA	516	1,57	-	0/7/25/26	0/2/2/2
1	2MG	QA	1207	1	-	0/5/27/28	0/3/3/3
25	5MC	RA	1942	25	-	0/7/25/26	0/2/2/2
1	UR3	QA	1498	1	-	2/7/25/26	0/2/2/2
25	PSU	RA	2605	25	-	0/7/25/26	0/2/2/2
1	MA6	XA	1519	1	-	6/7/29/30	0/3/3/3
1	M2G	XA	966	1	-	2/7/29/30	0/3/3/3
1	MA6	QA	1519	1	-	5/7/29/30	0/3/3/3
1	M2G	QA	966	1	-	0/7/29/30	0/3/3/3
1	5MC	XA	1407	1	-	0/7/25/26	0/2/2/2
1	UR3	XA	1498	1	-	0/7/25/26	0/2/2/2
1	5MC	QA	1407	1	-	0/7/25/26	0/2/2/2
12	0TD	XL	92	12	-	4/7/12/14	-
1	MA6	QA	1518	1	-	1/7/29/30	0/3/3/3
25	PSU	YA	2605	25	-	0/7/25/26	0/2/2/2
25	2MA	RA	2503	25,57	-	1/3/25/26	0/3/3/3
1	G7M	QA	527	1	-	2/3/25/26	0/3/3/3
25	5MU	YA	1939	25,57	-	0/7/25/26	0/2/2/2
1	4OC	XA	1402	1	-	2/9/29/30	0/2/2/2
25	5MC	YA	1962	25	-	4/7/25/26	0/2/2/2
1	5MC	QA	1404	1	-	0/7/25/26	0/2/2/2
25	PSU	YA	1911	25	-	0/7/25/26	0/2/2/2
25	PSU	RA	1917	25	-	0/7/25/26	0/2/2/2
56	PPU	ZA	3	25,57,56	-	5/21/43/44	0/4/4/4
25	5MU	RA	1939	25,57	-	0/7/25/26	0/2/2/2
25	5MC	RA	1962	25,57	-	0/7/25/26	0/2/2/2
25	OMU	RA	2552	25	-	3/9/27/28	0/2/2/2
1	2MG	XA	1207	1	-	0/5/27/28	0/3/3/3

The worst 5 of 107 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	QA	527	G7M	C8-N9	7.06	1.46	1.33
1	XA	527	G7M	C8-N9	7.02	1.46	1.33
1	QA	527	G7M	C8-N7	6.58	1.45	1.33
1	XA	527	G7M	C8-N7	6.18	1.44	1.33
25	RA	1915	5MU	C4-N3	-3.96	1.31	1.38

The worst 5 of 202 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	RA	1917	PSU	N1-C2-N3	6.22	122.18	115.13
25	RA	1915	5MU	N3-C2-N1	6.21	123.14	114.89
25	RA	2605	PSU	N1-C2-N3	6.14	122.09	115.13
25	RA	1911	PSU	N1-C2-N3	6.13	122.08	115.13
25	YA	1917	PSU	N1-C2-N3	6.11	122.06	115.13

There are no chirality outliers.

5 of 79 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
12	QL	92	0TD	O-C-CA-CB
12	QL	92	0TD	CA-CB-SB-CSB
12	QL	92	0TD	CG-CB-SB-CSB
1	QA	527	G7M	O4'-C4'-C5'-O5'
1	QA	527	G7M	C3'-C4'-C5'-O5'

There are no ring outliers.

26 monomers are involved in 46 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	QA	1400	5MC	1	0
25	YA	2251	OMG	1	0
25	YA	1920	OMC	2	0
12	QL	92	0TD	1	0
1	XA	1404	5MC	2	0
25	RA	2251	OMG	2	0
1	QA	1402	4OC	1	0
1	XA	967	5MC	1	0
56	ZB	3	PPU	4	0
25	YA	2503	2MA	1	0
1	XA	1518	MA6	1	0
25	YA	2552	OMU	2	0
25	RA	1920	OMC	1	0
25	YA	1917	PSU	1	0
25	RA	1942	5MC	1	0
1	QA	1519	MA6	1	0
1	QA	966	M2G	1	0
1	XA	1407	5MC	1	0
12	XL	92	0TD	1	0
25	RA	2503	2MA	2	0
25	YA	1939	5MU	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	XA	1402	4OC	1	0
25	YA	1962	5MC	1	0
56	ZA	3	PPU	10	0
25	RA	2552	OMU	3	0
1	XA	1207	2MG	2	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 1328 ligands modelled in this entry, 1326 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
58	SF4	QD	303	4	0,12,12	-	-	-		
58	SF4	XD	302	4	0,12,12	-	-	-		

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	SF4	QD	303	4	-	-	0/6/5/5
58	SF4	XD	302	4	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	QD	303	SF4	6	0
58	XD	302	SF4	4	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

EDS failed to run properly - this section is therefore empty.

6.2 Non-standard residues in protein, DNA, RNA chains

EDS failed to run properly - this section is therefore empty.

6.3 Carbohydrates

EDS failed to run properly - this section is therefore empty.

6.4 Ligands

EDS failed to run properly - this section is therefore empty.

6.5 Other polymers

EDS failed to run properly - this section is therefore empty.